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THE

ART OF SHOING HORSES,

BY THE

SIEUR DE SOLLEYSELL.

With Notes on his Practice,

BY

FREDERICK CLIFFORD CHERRY,

PRINCIPAL VETERINARY SURGEON.

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TO WHICH ARE ADDED,

NOTES ON HIS PRACTICE,

BY

FREDERICK CLIFFORD CHERRY,
PRINCIPAL VETERINARY SURGEON.

Late Veterinary Surgeon to the Second Life Guards.
And formerly to the 1*st Dragoons,* 11*th Light Dragoons, the Royal Waggon Train, the Depôts of*
the 10*th Hussars and the* 12*th Lancers; and to*
His late Majesty George IV. *in Ireland.*

"There are many people who would with all their heart know and understand things, but few who will give themselves the trouble to learn them." p. 44.

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PREFACE.

In early life, I, like many others, placed implicit faith in the doctrines promulgated at the Veterinary College on the subject of shoing. But the practical results of those doctrines, and subsequent experience, diminished my good opinion of the principles there taught; and feeling the responsibility of having valuable and noble animals confided to my superintendence and direction, I at length began to think for myself.

The book of nature lay open before me; this, in a wide field for observation, I carefully and diligently studied; with what success it is not for me to determine, but I had been led to believe that of recorded knowledge in by-gone times there was none, and I sought it not: chance, however, threw in my way Osmer's work on Shoing, and having glanced over a few pages, I was so struck with the perspicuity of his language, and the excellence of his practical remarks, that I took home the book and read it through before I slept.

With this copy of Osmer there was also bound up Remarks on Shoing, by La Fosse, and also by James Clark of Edinburgh; the perusal of these followed of course, and to them succeeded a careful reading of the Sieur de Solleysell's work, translated by Sir William Hope, a book but little known, written in an obsolete style, and containing some erroneous notions, yet abounding in elaborate details on all matters relating to the Horse; evincing great practical skill, much good sense, and sound knowledge on the matters treated of.

In one or the other of these works are to be found all the supposed discoveries, principles, and improved practices of later years, as regards the shoing of Horses. By this remark I do not mean to impugn the good faith of most of the supposed authors of such discoveries and improved practices, as I can readily believe they really considered they were so: for towards the close of the last century, and in the early part of the present, it was the fashion to treat with ridicule or contempt any reference to the opinions and practices, as to Veterinary matters, of former days. Indeed the coincidence I have mentioned may be considered as redounding to the credit of these later writers on the score of close and accurate observation, who might otherwise be called mere plagiarists; for the laws of nature remain the same, however much they may be modified or brought to act in new channels by modern ingenuity. No doubt the great bulk of Farriers and Horse Doctors were an ignorant and presuming set, but experience has convinced me that standing aloof, probably, from this mass, there existed men of superior minds, with a good stock of Veterinary acquirements and profound Horse-knowledge. In the Notes, I have adduced some reasons for believing why this should necessarily have been the case.

Osmer's treatise on Shoing I caused to be reprinted, unmutilated and undisguised, in the volume for 1829 of the "Farrier and Naturalist." This was speedily republished with additions, under a feigned name, and dressed in a garb that destroys much of its real excellence.

In the volume of the "Hippiatrist and Veterinary Journal," for 1830, I also caused to be printed that part of Solleysell's work relating exclusively to Shoing, copying merely from the translation; but with some prefatory remarks, which now do not require to be further adverted to.

I soon afterwards re-wrote a great part of this extract, but, in doing so, strictly adhered to the evident meaning of the author, making no additions to the treatise itself, but placing figures of reference wherever remarks suggested themselves to my mind, so that these might be added as Notes at the end, entirely distinct from the original work.

That intention I have now to a certain extent carried out; the intervals in doing so have been long, from what cause is immaterial to the reader; nor, after all, are the Notes themselves so copious as I then contemplated.

It must not be forgotten that Solleysell was a Frenchman, and treated of French Horses and customs more than one hundred and fifty years ago. The minuteness of his detail derives importance and value from its resting on practical truths; and is calculated to give much more information, in regard to the practice of Shoing, than any modern book I am acquainted with. It will be found that his remarks, and the directions he gives, are applicable to Horses generally in this country in modern times, and form leading points in the practice of the best Farriers of the present day.

This introductory part was originally intended to have been much more diffuse, but the death of Professor Coleman stayed my pen. Differing from that gentleman on some important points of professional theory, still more so as regards practice, and having publicly spoken and written very freely on these points on numerous occasions many years ago, I am not disposed to repeat opinions opposed to such high authority now that he is removed from the power of setting me right as to misconceptions, or answering my objections to his dicta. As to any degree of acerbity which may be implied from the nature of some of the Notes, I wish it to be borne in mind that they were written and printed while Mr. Coleman's health and vigour of mind remained undiminished; being in accordance with previously expressed opinions: and I most freely acknowledge that to his instructions as a teacher, and conversations on professional subjects, I am greatly indebted, and owe much respect.

I have no favourite theory to support, and am only desirous to bring forward and develope truths, wherever they are to be found.

THE ART OF SHOING.

CHAPTER I.

TWO METHODS OF SHOING.

PEOPLE should be persuaded that no gentleman, or other person who hath good and handsome horses, should be ignorant of the order and method that ought to be observed in shoing them; to the end, that if he cannot conveniently find a skilful and expert smith, he may at least order after what manner they should be shod, to have it well done; and I think that there should be a distinction made betwixt two methods of shoing.

The first and most useful method is, to shoe for the advantage of the foot; and according to its nature and shape, to fit shoes to it, that may make it, if bad, better than it is, and if good may preserve and keep it from becoming bad.

The second method is, that which disguises the foot, and makes it appear good, when really it is not so, and this last is that which is most sought after by the horse-coursers (1); for although this last method of shoing, in time, wholly ruins the foot, yet those, who have no other design but to put off their horses, do not much trouble themselves about it, for provided that their horses' feet but appear good, and they get them sold, it is all they desire.

I shall show you the first method, which is to shoe a horse for the advantage of his foot, and although many seek earnestly after the second, that is, to disguise the foot, and make it appear good, when really it is not;—and by that method of shoing, at last wholly ruin their horses' feet,—that is what I do not undertake to teach; to prevent falling into this error, neglect not to learn the right method of shoing for the advantage of the foot. People have known in this our age, kings who understood how to forge a horse's shoe, and there are but few persons of quality who know not how to drive a nail, thereby to serve themselves upon a necessity (2).

It is a maxim, that people cannot teach that which they know not themselves, and therefore, I endeavoured to learn a little how to forge a shoe, and give it the right shape it should have, so that many times when the smiths have not given the shoe the right turn, according to my mind, I have given it myself the turn or shape which I desired. There is not at present a stable-boy, but what will give orders for the shoing of the horse whose foot he is holding (3); all the coachmen give lessons to their masters, and afterwards to the smith, and these lessons are for the most part prejudicial, because they are the occasion of weakening, and spoiling horses' feet: therefore, that these inconveniences may be avoided, I have laid down maxims that will serve as so many guides, in the art of shoing.

Now this part is absolutely necessary; and, from not understanding it, horses of great value often become altogether useless, and their owners are obliged to rely upon the discretion of a mere smith, who believes that he is doing right, when perhaps he is absolutely ruining the horses' feet.

Shoing is a trade, which seems merely to rely upon practice, or rather a certain rote which the smith-boys learn from their masters, and they not knowing the true maxims, which should be observed in shoing a foot well, cannot teach it their apprentices; when such boys come among able masters who would teach them to shoe for the benefit of the foot, they often render themselves incapable of being put in the right way, and give for a reason, that they were bred up in such and such a shop, and that there, they did not shoe after that fashion. For me, I have applied myself to find out the true way of shoing, both because of the need I had for it, to put and maintain bad feet in a condition to serve, as also that I might not have the vexation of seeing fine and vigorous horses remain useless, from having been in the beginning badly shod.

I shall discourse not only of saddle, but also of coach horses which require greater care; because in place of good feet, or at least such as are in a condition to serve when they come first into use, will in six months or a year, have their soles round and high, their heels narrow, or low and ill shaped, because in that time such horses' feet alter or change, if the shoing does not give them a good form and shape (4).

I daily also, by reason of this ignorance, see feet hoof-bound, altered, and dry, and legs which are arched, also horses which tread only upon the toes of their hind feet, and a hundred other accidents, which befal horses from not knowing how they should be shod, for the benefit and advantage of their feet.

There are four maxims or chief rules which must of necessity be known, that a man may shoe all sorts of feet well.

The first comprehends this general precept: toe before and quarter behind; or before behind, behind before.

Toe before, means that although the toes of the fore-feet be strong, and able to bear a good grip by the nails you intend to drive in them, yet the quarters of the fore-feet have less thickness of horn, and therefore but a slender hold must be taken upon them, for fear of touching the quick, and so pricking the horse; know then, that by *toe before* is understood, that you may drive hardily, and give the nails a good hold upon the toes of the fore-feet, because there the horn is very thick, while in the quarters of the fore-feet, it is thin.

Quarter behind, means that the horse hath the quarters of his hind-feet strong, the horn being thick, and able to bear a good grip in that part; but at the toes of the hind-feet, the horn is but thin, and therefore smiths should put no nails just at the toes of the hind-feet, but only in their quarters.

For the first maxim then, remember, that the quarters of the fore-feet are weak, and have but little horn, and that the toes of the hind-feet are so likewise, because the horn is thin, and you will soon meet with the quick, so that by driving the nails high in those parts, the horse will halt, and if people do not very quickly find out the part hurt or pricked, matter will presently form in it, and may be the occasion of much trouble.

Horses may be lamed in two ways; either by a nail driven into the quick, or by pressing upon it, and this commonly falls out in the quarters of the fore-feet, or in the toes of the hind.

The second maxim is, never to open a horse's heels (5); it is the greatest abuse of all, and it ruins the feet most. People call it opening of the heels, when the smith in paring the foot, cuts the heel low, and close almost to the frush, and takes it down within a finger breadth of the coronet or top of the hoof, so that he separates the quarters at the heel, and by that means weakens and takes away the substance of the foot, and makes it to close, and become narrow at the heels; now this so called opening, would be more properly called closing of the heels, for the roundness and circumference of the foot being cut, by doing that which they call opening of the heels, they are no longer supported by any thing, so that if there be any weakness in the foot it will of necessity shrink and straiten in the quarters, and if smiths looked to their reputation and did their duty, they should make this maxim one of their chief principles and rules in shoing (6).

The third maxim is, to make use of nails as thin and small as possible, because they are the best; nails that are thick make a large hole, not only when they are driving, but also when clenching; for being stiff, they split the horn, so that a horse's foot falling between two stones, or in any other place, where it behoveth him to pull it out with force, the shoe will often remain there with a part of the horn, to wit, all that is below the nails. This happens so much the more easily, because the holes which the big nails have made as well in driving as clenching, have already weakened, and as it were cut the hoof quite round in the place where they are driven: besides a tender foot cannot be shod with such big nails, without hazard of pricking it, especially if there be but little horn to take hold of; but the smiths to prevent this, pierce their shoes *lean* or too near the edge, which also in time is the ruin of the foot (7).

The nails of Limoges and Argenton are preferable to others; those of Limoges are soft and tough, because they forge them with charcoal made of the chesnut tree, the iron used at Limoges is not better than in other places, it is the charcoal that makes it good: besides, these nails are well forged and very thin, but being long, if not driven with a sure and steady hand, or if the hoof be hard, they will be apt to bend and knee every moment; the inexpert cry out against these sort of nails, because they know not how to drive them, but those who have a sure stroke and can place them right, will drive them as well as those big and short clumsy nails which are worth nothing.

But large heavy shoes, such as coach and cart horses have, could not be kept fast with such small and limber nails as I advise you to make use of, because there is a proportion to be observed in every thing; therefore to large feet you must make use of bigger nails than to those which are of a less size, but always, the smallest and limberest nails that can be made use of to each kind are the best; neither doth this exception at all destroy our maxim, which holds always true, but more particularly for small-sized tender feet (8).

The fourth maxim is, to make the lightest shoes that will conform to the foot and size of your horse; because, heavy shoes spoil the back sinews and weary the horse: for in travelling he has almost always his feet in the air, and for that time the weight of the shoe must be supported; the time they rest upon the ground is not considerable. With heavy thick shoes, the least knock against a stone makes the nails slacken and yield; as also when a horse with his hind feet overtakes his fore, the shoes being heavy are more easily pulled off, so that the horse remaining upon the road unshod, is in hazard of being spoilt, before a man can have a smith to shoe him: and those who from frugality use thick and heavy shoes, are deceived, for they lose more by it than they gain; because by this method, horses spoil their sinews, and lose more frequently their shoes than if they had been light; besides that any shoes which are not brittle, last long enough in a plain country where there are few stones.

CHAPTER II.

HOW TO PARE THE FEET, FIT THE SHOES, AND DRIVE THE NAILS.

I HAVE told you what I think is necessary to be observed for shoing in general, let us now consider what is to be observed by the smith when he is to pare the feet: he should then by no means, hollow or empty their quarters with the butteris (9), or pare down the heels, to open them, as it is called; the butteris is the instrument with which they pare the feet, and it is also called the paring-iron; if people hollow the quarters and open them, they weaken the foot, for the roundness of the hoof being taken away, the heels are not sustained or kept asunder with any thing, and will close; being closed they will be weakened, and so the horse will become very soon strait-heeled or hoof-bound, especially if his heels be high and in the least altered, that is dried; you must then keep the heels of the fore-feet strong, and likewise all the rest of the foot; because if your horse should chance to lose a shoe upon the road, he will spoil his foot by the way before you perhaps have the opportunity to get him shod again; also if you pare his feet almost to the quick, as some people do, who think thereby to prevent the so frequent shoing of their horses, because their hoofs grow quickly, they would be all broken and spoiled; but if you know that your horse's hoofs are smooth and tough, you may by that judge that he will not so easily lose his shoes, and therefore may, with the more confidence, pare his soles reasonably near.

The foot being well pared, you must fit and adjust a shoe to it which must be neither too broad nor too narrow in the web, neither must its spunges extend any further than the heel, but must follow the exact compass of the foot, just to the corners of the frush, and they must not appear much upon the outsides of the hoofs at the heels neither, as those smiths, who pretend to be very understanding, would make us believe, by saying that it preserves and supports the heel; for this pretended preservation of the heel is but a fancy very ill grounded, therefore laying aside such whimsies, the middle of the sponge must, without any other philosophy, be placed just upon the middle of the end of the quarter which touches the corner of the frush, and is called the heel, and which, it is to be supposed, you have not pared; for as I told you, the heels must never be pared, because this paring of them, which by the common smiths is called the opening of the heels, should as I have said, be rather termed the closing of them; now the middle of the sponges being placed upon the extremities of the quarters, which form the heel and almost touch the frush, must not reach any further, and then your horse will be shod, both for his own ease and the benefit of his foot, for he will never become hoof-bound, neither will he over-reach, by reason of the sponges of his fore-feet shoes being set equal with his heels, and not suffered to exceed them; the best and strongest reason I can give for this, is that a horse is never so much at his ease as when he is standing without shoes upon his litter, therefore that he may have always that ease, put shoes upon him which follow exactly the shape of his feet, and that do not much exceed the outsides of his hoofs, at the heels; for that is not to follow nature, which is our guide and wiser than we, but is rather to cross and constrain her.

The French make shoes, whose shape their feet must take, and although incommoded, they are not much concerned at it, provided they be but in the fashion. But the Spaniards follow the form and figure of their feet, their shoes conform to the model thereof, and they are more at ease. Apply this comparison to the shoing of horses, and you will find it answer pretty near.

Those who make the sponges of their horses' shoes too long, fatigue and weary them, and also make them over-reach, they likewise ruin and spoil their feet, and are the occasion of their becoming hoof-bound; those again that are too short, make a horse go not so much at his ease, but your horse's shoes will never be too short, if they follow the whole compass of his feet to the ends or corners of their frushes, and no further. The sponge is that part of the shoe, which when it is fastened upon a horse's foot, is next to the heel.

The shoe should not press upon the sole at all, but should rest equally and exactly round the whole foot upon the horn (10), which is about the thickness of a small finger's breadth, taking notice that if the shoe, upon the outer edge of that side next the horse's foot, have any rising or unevenness in it, and that you do not beat it down, and make it level, it will rest upon the horn, and certainly spoil his hoof, for that raised edge being higher than the rest of the shoe, there will be no other part of it rest upon his hoof, which will certainly spoil it; the horn round the foot is at most no thicker than a small finger's breadth, which is also generally the thickness of the rest of the hoof.

If the shoe rest upon any other part of the foot but the horn, it will, if the sole be thin and weak, cause the horse to halt, and then you must immediately take off his shoe; but if the sole be thick and strong, although the shoe rest upon some parts of it, yet the horse will not halt, as you may remark in shoing with the Panton shoes hereafter described, which shoes rest almost always upon the sole, or upon the corners of the frush; which being thick and strong, is the reason that the horse but very seldom halteth with them.

Having thus fitted the shoe, drive two nails in it, and then let his foot go to the ground, to see if the shoe be right placed, then drive the rest of the nails equally, and not the one higher than the other, which is called driving nails by music or musically, but drive them equally, observing nevertheless that the nails of the heels of the fore-feet be low enough driven, because you will there very soon meet with the quick, which in the hinder feet is just contrary, for in them the heels are strongest.

The nails being driven, and the ends cut off with the pincers or nippers, before you clench them, take the cutting knife, which is a piece of steel about half a foot long, having the one edge sharp, and the other about the thickness of two crown pieces, with which cut the horn that overpasses the shoe when it is fastened, by striking with the hammer upon the back of the cutting knife, until you have taken away all the horn you desire; the nails being driven and cut over, before you clench them, take the cutting knife again, and cut away the small pieces of horn which the nails have made rise in driving, to the end that the clenches may be equal with the horn, for besides that it makes the foot appear handsomer, the nails also fasten better, and the horse can never cut himself with the clenches, which will often happen if you observe not this method, especially upon the inside of the foot, and that the nails be big and thick; for the clenches being too high above the horn, is often the cause of the horse's cutting himself, and therefore the clenching of the nails well is of great consequence, for the reasons I have given.

As the shoe wears, the nails by degrees sink into it, so that the clenches loosen and appear more above the hoof, and they will, very probably, lame the horse; therefore take good notice, that when a horse has been long shod, he do not cut himself with these long clenches (11).

For feet that are brittle and split easily, take common honey, white grease, and tar, of each a like quantity, mix them cold, and use it for anointing brittle hoofs every other day, it will keep the feet moist, and soften them; if nevertheless it hath not that effect you expected of it, have recourse to the following hoof-salves.

CONNESTABLE'S OINTMENT.

TAKE new wax, and goat's grease, or for want of that, fresh sheep's suet, and the fat of bacon cut into small pieces, and steeped twenty-four hours in water, frequently changed, till it grow fresh, of each one pound: melt them together, and then add a large handful of the second bark of elder; and if it be in the spring, two handfuls of elder-buds, when they are about the bigness of your thumb. Boil them over a gentle fire for the space of a quarter of an hour, stirring them from time to time. Then squeeze the matter through a coarse cloth, and to the straining add two ounces of oil-olive, four ounces of turpentine, and the like quantity of honey; simmer over the fire; after which remove the vessel and stir the ointment till it be quite cold; anoint the hoof for the breadth of an inch round the hair, and repeat the application once a day.

Never anoint the foot but when it is dry, and take care to wipe off the dust and dry dirt before you lay on the ointment.

ANOTHER OINTMENT FOR THE FEET.

TAKE fresh butter and sheep's suet, melted and freed from its membranes, of each one pound, white wax cut into small pieces, and common turpentine, of each four ounces, oil-olive six ounces, and melt them together in a bason: then add a pint of juice of plantane, and as soon as they begin to boil, remove the vessel from the fire, then set it on again, and continue after the same manner for the space of eight or ten hours, till the juice be wholly consumed without boiling; remove the vessel from the fire, and as soon as the matter begins to thicken add an ounce of olibanum in powder, stirring perpetually till it be quite cold. This ointment makes the hoof grow without occasioning a preternatural heat, which is the usual effect of uncorrected oils and greases.

But horses which have feet in which a nail cannot be driven without bending, by reason of their hardness, should have them moistened with remolades or softeners; or some of the horse's own dung, being made wet with fresh water, may be thrust forward under his fore-feet, so that he may stand upon it the whole day; continue this for a time, and it will do more good to some kind of hoofs than the remolades, but not to all (12).

Having now discoursed of shoing in general, without tying myself to any particular imperfection in the feet, I shall next speak briefly of all kinds of feet in particular.

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CHAPTER III.

OF LOW HEELS, TENDER FEET, AND OTHER IMPERFECTIONS.

WHEN you are paring feet which have low heels, pare only the toe without touching in the least the heel, and it is also good not to touch the frush, (13) unless it be beginning to corrupt, and then you must pare it flat; you must also cut the toe with the cutting-knife or rasp only, and not with the butteris.

People only use the butteris to give the shoe a seat, after they have cut the toe with the cutting-knife, for example, the breadth of one's finger or thumb, if the foot be too long at the toe; in which case you must also pierce the shoe near the edge at the toe, for fear of pricking, and so placing the shoe after that fashion you will force the too great nourishment which went to the toe, to strengthen the heels, and in twice or thrice shoing, the foot will come to a good shape and form; and also in the time that you restrain the toe by cutting it, the heel will strengthen. Now these kind of feet growing only at the toe, all the nourishment of the foot goes there, and so the heel becomes narrower, and daily weaker; but if you cut the toe with the cutting-knife, having only as it were blanched or cleaned the sole with the butteris, I assure you the foot will take quite another form or shape, a great deal better, and the heels will also strengthen.

But if your horse's heels be low and not narrow, and that the frush be large or fat, with great difficulty will you keep it from touching the ground, and then your horse will be in danger of halting, especially when he is ridden upon hard ground (14).

To prevent this, I think there is no other remedy than to give him calkins, after the fashion of the point of a hare's ear, which is done by turning the insides of the sponges the whole breadth of the shoe; now these kind of calkins will not do great harm to his feet, and he will go more firmly with them upon the street, or on slippery ground; by this means you will hinder his frush from touching the ground. It is not that I approve of calkins after whatever fashion they are made, the great calkins are the worst, but these after the fashion of the point of a hare's ear are the least dangerous, though if people could also dispense with the want of these, it would be still so much the better.

But if the horse which has low heels, have them also narrow near the shoe, although his frush be large, which is not ordinary, you must then give him no calkins of any kind, but you must shoe him with panton shoes, in French, *fers à pantoufle* (15), with a narrow sponge, and very thick in the inside, that is, it must slope very much from the inside of the shoe next his foot to the outer edge, and place the sponge of the panton shoes upon the heels so that the thick edge of the sponge may enter within the corners of the frush, to press them out when they grow; cut his toe with the paring-knife, as you find occasion for it, and after he is shod, keep his feet in his dung, moistened with water, until he leave halting, for he will for a few days have pain in his feet until he be accustomed to wear these kind of shoes (16); afterwards you may let him work, for he will not have carried them long before he will be accustomed to them; and after thrice shoing, the heel and also the whole foot will have taken a good form or shape.

The horse-coursers, to cover this imperfection of having low heels, make the sponges of the shoes large and thick, to supply the want of the heels, which is indeed a very good invention to spoil the heels for good and all: it is good for nothing but this, that it makes those who are ignorant buy such horses, without taking notice of their having low heels; and the horse-coursers have no other design by it but this, when they shoe their horses after that fashion. It does however well enough for such horses as have their heels but a little low, to beat down the ends of the sponges with the hammer, to thicken and square them beneath; this will raise their heels, and make them go better upon the streets while their shoes are new, but will not give their feet a good shape; in a word, low heels with a very large frush are those kind of feet which I look upon as the worst of all feet, because they cannot at all, or but very rarely be recovered (17).

CHAPTER IV.

OF FLAT FEET, AND SUCH AS HAVE THEIR SOLES ROUND AND HIGH.

THOSE horses which have flat feet, when young, will have their feet spread, and so be in danger of growing ill-shaped; therefore they should be shod after the manner following, to keep them from insensibly spreading, especially if the horse be worth your pains; above all things, if your horse has flat feet you should bar the pastern veins; this operation, however, is not absolutely necessary, unless your horse has his soles round and high, yet this is not to say, but that the doing of it contributes very much to the amendment of flat feet. To do it, you must know that in the pastern their are two veins below the joint, the one upon the inside, and the other upon the out; which veins must be barred, that so you may put a stop to the superfluous humour, which falls down upon the lower part of the foot, and causes the sole to grow, and also the coffin-bone or little foot, which, through time, makes the foot become round and high at the sole.

To bar the pastern veins right, you must tie them near the joint with a fine thread, to the end that you retard not their cure; a little silk is very good for that purpose; then cut the vein beneath and let it bleed; if it bleed too long, you may bind up the orifice with a large band and a compress; the veins of the fore-legs being stopped in four places, and the wounds beginning to heal up, which will be in seven or eight days after you have barred the veins, you must do what followeth.

For flat feet, if you bar the veins, you will come sooner to your purpose than if you had omitted it; but that does not hinder this following method from being very good, although you should not have barred him.

Forge, according to the following figure, A.C. D.F. shoes very straight in the quarters, and which do not turn in a circle, nor follow at all the shape of the quarters of the foot, but whose branches from the toe A.D. to the

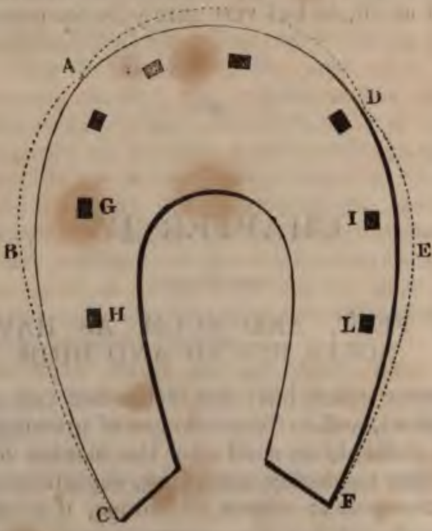


Fig. 1.

sponges, C. F. must be very straight, and you must pierce the holes G. H. I. L. very near the edge. Place those shoes so, that you may have about the thickness of two crowns of horn to take away at the toe A. D. with the cutting-knife, and they, having their branches straight, there will without doubt be a good deal of horn to take off at the sides A. B. C. and D. E. F. which are retrenched by the shape of the shoe within the dotted line, as you may see in the figure.

Having then a shoe made after this fashion altogether flat, and the branches nearly straight, pare his foot very gently and fit the shoe to it; for although it rest a little upon the sole it matters not, because by no means must you make your shoe vaulted or hollow; fasten the shoe with very thin nails, taking but a slender hold for fear of pressing the vein, or meeting with the quick; your horse being shod with this kind of shoe which I have been ordering, put a restrictive in his foot made of chimney soot and turpentine, boiled together upon a slow fire, constantly stirring it, until it be pretty thick, and apply it scalding hot, with hurds above it; and as the shoes are not vaulted, you will have difficulty to get in thin slices of wood to keep fast the restrictive, because the shoe will almost touch the sole, therefore after you have put in the hurds, you must tie a cloth about his foot to hold all fast: this restrictive will help to put a stop to the growing so much of the sole (18), and will also contribute together, with the stopping of the pastern veins, to put a stop to all the superfluous nourishment which went to the sole and coffin-bone; put also upon the coronet by way of a plaister some hoof-salve spread upon hurds, applying it to the onset of the hoof to cause his foot to grow, and renew the plaister every four days; this does a great deal better than only to anoint his feet every day, because the ointment, being tied on with hurds and always remaining upon the horn, hath more time to moisten it and cause it to grow, than the simple anointing of it.

You must not work your horse for five or six days, that so he may be used to his shoes, which will at the first press his foot, but if after that time he can bear it, you must then let him alone until he be wholly accustomed to them: and if he halteth extraordinarily, it is then likely that he may be prickt, of which you must take good notice and cure it. You must continue to shoe him after this method, always by degrees making the shoes straighter, not much at the quarters, but considerably at the toe, A. D. which you must retrench and keep short by all means imaginable, as you see it marked in the figure by the circular line A. D. which is marked with points; after three or four shoings your horse will have changed the shape of his feet which was unpleasant, into a better form.

If feet which grow too much at the sole, have the heels narrower near the shoe than above, then you must not retrench the sides of the foot, A. C. D. F. as I desired you before, but you must shoe them with panton shoes to enlarge their heels; for besides, that these shoes will open the heels, they will also hinder the sole from growing so much downwards, and so the foot will take a better shape. When you shoe with a panton shoe, it must follow the circumference of the foot, and the branches must not be straight; you must also keep the sole strong, without taking any thing almost from it, otherwise your horse will halt; so then you are to take nothing from the sole, heels, nor any other part when you shoe him, but only that which rises like a scurf, and you must always shorten the toe by cutting it with the cutting-knife proportionally as you shall find occasion; make the shoe altogether flat without vaulting it, for although it rest a little upon the sole it matters not: his fore-feet being shod, cause him to stand with them all day long amongst his own dung, being a little moistened, and let him not work for eight or ten days, until he be accustomed to those kind of shoes; afterwards you may step him abroad upon easy ground, to strengthen his feet (19).

The reason why the foot, being restrained with this kind of shoing, takes its right shape again, is because those horses which have flat feet, and round soles, have too much nourishment in their soles, and particularly at their toes, and too little at the upper part of their feet; now that the pastern veins furnish this superfluous nourishment, is evident when people take out a horse's sole, because to stop the blood which flows in great abundance from the foot, people are necessitated to tie the pastern with a cord, that is, they press those two veins, which I have before ordered you to bar, and that tying stops the blood; which being stopped, and having no more passage to go to the under part of the foot, which it did too much nourish and moisten, it follows of necessity that the sole must dry and shrink in, to which the panton shoe will contribute very much; because by opening the heel near the shoe, it will also constrain the superfluous nourishment, which went to the sole and toe, to remain above, and nourish the heel which was dried, and by means of the hoof-salve the foot will be moistened, and the nourishment kept there, which is what we desire, and in the mean time the heel enlarges, and the toe and sole shrink in, and grow less (20); this method is also good for Flanders' horses, whose feet change the horn, for in the time that their feet alter, it gives them a good shape, but if their feet be already bad, you must take another course with them.

If the horse's sole be round and lower than his hoof, which happens more to some than others, so that some will have their foot so ill shaped that it will resemble an oyster-shell, and be reversed in a manner, it is impossible to shoe them without hollowing or vaulting their shoes, which will make them go uneasily, and also in time cause their feet at the soles to become round, like the segment of a ball.

The shortest and best remedy for such feet is, to bar the pastern veins, and seven or eight days after the operation, to make him panton shoes with narrow sponges, and extraordinarily thick on the inner edge; they must not be vaulted, for it is to be remarked that almost all the round or high-soled horses have narrow heels near the shoe (21), and the smiths, thinkng to give ease, make them hollow shoes which rest only upon the horn on the outside of the heel, and by that means, because the shoes constrain the foot, they make it grow daily straighter at the heel; the little bone also which is in the middle of the coffin presses downwards towards the sole, the toe grows long, and so the feet become ill-shaped and unserviceable; now to help and rectify all these inconveniences, the panton shoe being forged short, and the nail-holes pierced near the edge of the toe, as I told you, cut more or less from the horse's toe with the cutting-knife, as you think fit; then fit the shoe, so that the slopings or thick parts of its sponges may enter within the corners of the frush, and being flat at the toe that it may rest upon the horn, but although it rest also a little upon the sole it matters not, and fasten it with thin nails; also put into his foot a restrictive made of chimney soot and turpentine boiled together (22), and anoint his hoof with hoof-salve, then let his feet strengthen, which they will do by growth, and by rest be eased of the pain, which that new manner of shoing will occasion, and that for the space of twelve days or more until he leave halting; afterwards let him work by degrees, and after three or four shoings, if the horse be not old, his foot will have taken a good shape: this is not speculation, but founded upon experience.

It is a great abuse to vault shoes when it may be avoided, and it generally may be avoided, because the foot being nailed and made fast to the shoe, it grows and takes the form of the shoe, and nature finding that passage open, presses always that way, and is helped by the hollow shoe, to give that round form to the feet, which renders a horse unserviceable for the street, or upon hard ground; so that people are necessitated to send them to the plough, when, without that fault, they would have been good, and might have served for a coach.

It happens also that when a horse travels upon vaulted shoes, he treads only upon the middle of the shoe, for it cannot all equally touch the ground, because of its roundness; so that it hinders the horse going so firmly as otherwise he would, and also makes him slip (23).

But supposing that your horse's feet be yet in a condition to be helped, you must restrain their growth in the soles as I have shown you for the flat feet; or if his heels be narrow, shoe him with a panton shoe, and after the former fashion without vaulting or hollowing it, you must also pare but little from his feet, and leave his sole strong, shorten his foot at the toe, and put these panton shoes upon him, if his heels I say be narrow near to the shoe: then put the restrictive into his foot, which I ordered before, or otherwise let him stand with his feet, being shod after the fashion I have been showing you, in his own dung, it being kept a little moist that it may not heat, and let him stand so until he halt no more, always keeping the dung moist upon which he stands (24); at the same time put about his foot a charge or softener reasonably warm, or hoof-salve as I have before ordered: you must also renew two or three times the application of the restrictive, and the charge or hoof-salve, keeping him always shod after the former manner, but if his foot after shoing be very high and round soled, you must then let him stand eight or ten days upon his litter.

If the horse have his sole but a little raised, or that it be not as yet absolutely round beneath, after twice or thrice shoing it will be helped, but the more it is out of shape the more time will it take to rectify it: flat feet, or at least the most part of them, have their heels narrow near the shoe, so that the smiths by hollowing or vaulting very much their shoes, make them rest upon the outsides of the heels, and by that means make them become narrower; now, quite contrary to this method, you must shoe your horses with panton shoes, so that causing their heels to open you will contribute to the shrinking in of the sole and under part of the foot, as I have told you before, and cannot tell you too often (25).

But if your horse's foot be extraordinarily high or round in the sole, you must without delay bar the pastern veins, which will be the only means to give a good shape to those flat kind of feet, for without this operation any other will have no great effect; because the main design is to put a stop to the superfluous nourishment which goes to the sole, and to force nature to furnish that nourishment to the upper part of the foot, which the shoing with panton shoes will do, even without retrenching and cutting his hoofs at the sides, if you do but cut and retrench his toe, and keep his sole strong, taking nothing from it; so that being shod with shoes which are not vaulted, although they rest a little upon the soles, yet they will not cause him to halt much, even although they be panton shoes: afterwards fit the shoe, and providing it rest not altogether upon the sole it is enough, seeing you left the sole strong expressly for that purpose, and fasten the shoe with very thin nails. When he is shod, fill his feet with tar scalding hot, or with the restrictive before mentioned; or otherwise keep them amongst his moistened dung.

It is true, this is to keep the horse a long time without having any service from him; but oftentimes from not taking care of him, and giving that rest in due time, he becomes altogether unserviceable, as I have seen a great many; there are some which have such kind of feet that will yet be somewhat serviceable, but according as they need help, people should take more care of them, though they often take less, and the horse is given up.

The smiths, whom I ordered to shoe some horses after this method, did it at first out of mere complaisance, thinking that every man had liberty to spoil his own horse and ruin his feet; but afterwards finding this method of shoing with panton shoes, and barring the pastern veins to succeed well, they protested to me that it was only the experience they had which could have convinced them of their usefulness. But the best way is, to prevent the disease, and to hinder your horses in the beginning from having round or high soles; because horses which are brought up in moist or marshy countries, and especially those which come from Holland, Friezland, Oldenburg, and the adjacent countries, are very subject to have their feet spoilt when they alter or change the horn; for besides the bad form and nature of such hoofs, the horse merchants dry up the whole hoof with a great deal of cow-dung: to prevent then your horse's feet from becoming *comble* (26), or high and round in the soles, you must use all the means imaginable, for it is not enough to buy them with good feet but you must also preserve and maintain them in that condition.

The first shoing of coach-horses is of much consequence:

you are then but to make the horn level where the shoe rests, and not to take any thing from the sole, but as it were to clean and whiten it; shoe him just, and pierce the nail holes a pretty distance from the edge, so that the nails may not easily split the horn; but for fear of pricking your horse drive them somewhat lower than ordinary, and drive a nail just at the toe, that the shoe may stay longer on and remain straight upon his foot; you are not at all to retrench his quarters nor open his heels, but let the shoe follow the compass of the horse's foot, and by this means you shall preserve his feet good (27).

Those smiths, who think to give ease to their horses by enlarging their shoes, or vaulting them a little, insensibly spoil their feet, because they follow the form of the shoe, and so become mis-shaped; for the more you enlarge your shoe at first, the more you must enlarge it the next shoing, and that is the way absolutely to lose your horse; for it is far more difficult to rectify your horse's feet and give them a good shape when once deformed, than in the beginning when they have good feet and their horn altering, to preserve them, because they are then capable of receiving any form you intend to give them: horses which have large feet, although they be not flat, are more subject to have them easily spoiled than any other, if people take not care at every shoing, until the nature of the horn be changed, to retrench them (28).

Those who need horses for the plough, and who live in a soft country, should certainly buy such horses as have soles so high and round that they can be no more serviceable upon the streets in any great city, especially if they be young, and likely to do their business after they are recovered; all they have to do is to bar the pastern veins, and shoe them as I have directed, letting them rest for a month to strengthen their feet, and have the wounds which were made in barring their veins healed up; afterwards keeping their hoofs anointed, they will work and gain their expences, and in six months or a year their feet will be so recovered, that they will be in a condition for any kind of service; and I also assure you that by this method, such horses will in a year's time have pretty good and well-shaped feet, which before had them as flat as an oyster-shell. Let this suffice for horses which have flat and bad shaped feet, and also high and round soles.

CHAPTER V.

HOW HORSES WHICH ARE HOOF-BOUND, OR NARROW HEELED, SHOULD BE SHOD.

I SHALL begin this chapter with feet which are hoof-bound, to which the light sized horses are most subject, such as Barbs, Turks, Spanish, Italian, and English horses; there are also German and French horses which are sometimes hoof-bound, though but very rarely.

I have already shown that a hoof-bound horse, is one whose hoof at the heels so presses the bone within it, or the coffin-bone, that they either make the horse to halt, or at least hinder him from travelling easily (29); to cure it, people take out the horse's sole and cleave his frush, as treated of hereafter, or otherwise people remedy it by the help of shoing.

The causes of this defect in the feet are different; horses which have feet either ill shaped or too long, are subject to grow hoof-bound: they also become hoof-bound when their hoofs are too dry, and want nourishment to maintain the horn; or if they be not right shod their heels will grow narrow, and so they will become hoof-bound; after which they never go firmly, because their heels paining them, they endeavour to ease themselves as much as they can, and therefore go upon their toes (30), which makes the back-sinews to shrink, and their legs at the knee or pastern-joint to bend forwards, and which if you help not at the beginning will bring them to the ground.

To prevent and put a stop to this infirmity, you must when you shoe such horses, take the heels very much down without hollowing the quarters, and pare the frush flat: for all horses whose heels are very much taken down will never become hoof-bound, nor will they have *bleymes* (31); and the sinews of their legs will be preserved, especially if they be horses which work in the manage upon soft ground.

You must also, besides this precaution, never open the heels as the smiths do, by pressing the butteris edge-ways forwards, who thereby weaken the quarters (32); they cut also the end of the said quarter or heel, and take it away even within an inch of the hair, and they call that opening the heels, but they are so far from doing so, that on the contrary they take away the whole strength of the foot, which should have been left altogether whole, and which strength is preserved if you open not the heels, nor with the butteris hollow the quarters, but leave the sole strong, and let the heel keep its full roundness: I shall have a great many people against me for maintaining this proposition, because most persons, at least all the smiths, say that the heels are to be opened; but that which they call opening the heels, is downright to take away the strength of the heel, to weaken it, and put it in a condition to be soon hoof-bound; but I will inquire of those gentlemen, if their horses shod after that fashion do not become hoof-bound, for I daily see those horses hoof-bound, whose heels have been kept very open after their fashion; and I maintain, that of all the horses whose heels I caused to be taken down reasonably, and afterwards shod, causing the shoe to follow the roundness of the foot just to the corner of the frush, and keeping their soles strong, not so much as one of them became hoof-bound (33). But if, notwithstanding, there be appearance that the horse's heel will become narrow, then the surest way is to shoe him with the half-panton shoe, that is, to turn the branch of the shoe in towards the horse's foot, as it is explained in the following chapter: for that shoe will keep his quarters in a condition to open and become wider; the horn growing, the heel opens, and cannot straiten, and so the foot will continue well shaped, for the shoe which you put upon it will open the heel, because either the hoof must not grow or the heel will open, for the sponge of the shoe must follow the roundness of the heel, and go no farther than the end of the quarter; seeing then that the shoe gives the shape to the foot, as without all doubt it does, and the shoe taking no other shape than it has already, and the horn by its flexibility, being capable of receiving any form, it follows necessarily, that the shoe being a half-panton shoe, must force the horn outwards, and so enlarge the heel, which I shall explain in the following chapter: but above all, you must take notice when you shoe after this method, that is to say with half-panton shoes, that you keep always the sole strong (34).

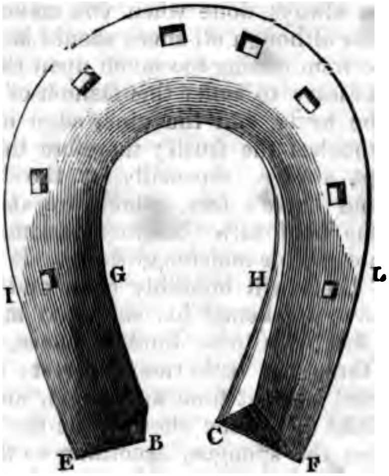
Some people say that the frush should not at all be pared, because when it is entire it keeps out the quarters, and prevents their coming together (35); truly, people should not make the sole hollow betwixt the frush and the quarters, but should only pare the frush flat: if people did not at all pare the frush it would become stinking, and so breed the *teignes*, mouldering away in pieces, as if the moths had eaten it, whence the name, and going the length of the quick, it will often make a horse to halt; besides there is no advantage in leaving it so high: we conclude then, that every time the foot is pared, the heels and frush should be made flat without hollowing the quarters, and that for the least straitening of the heels, the sponges should be turned in towards the sole, after the manner of the half-panton shoe, as it is explained in the next chapter, and the heels very far from straitening, will infallibly open and enlarge.

For those horses which are hoof-bound, after that you have pared their feet, and left the sole extraordinarily strong at the heels, you must have panton shoes, conforming to the shape of the following figure, which are, as I believe, Monsieur de la Broue's invention, who was one of the most skilful horsemen in France, when the exercise of riding was first there established, as people may judge by his book, of the manner how to manage horses, and by the favourable character left of him.

I have called this shoe the Panton or Pantable-shoe (36), to distinguish it from those of any other fashion or shape.

Now to forge a panton shoe, you must make the inner edge of the sponge BAE, CDF, see *Fig.* 2. a great deal thicker than the outer edge I E, L F, so that between A G, and D H, there may be two or three times the thickness that there is betwixt I E, and L F, as you may perceive by the thickness of the sponge A B, C D, so that the shoe rises

Fig. 2.



by degrees from G to A and slopes equally from A to E, the whole length A G, E I; and so you will find that the inner edge of the sponge is a great deal thicker than the outer, for the thickness within marked A B, is three times thicker than E; there must be great care taken that the thickness A B, C D, of the sponge, diminish gradually towards G H, as you may perceive in the figure, and that all the rest of the shoe from I L, G H, round the toe of the shoe, is quite flat as other shoes are, to the end, that the horse's foot may rest upon it at ease. That which is represented to you by the figure, is the inside of the shoe next the horse's foot; and the sponges should be narrow, or pretty near each other, that they may rest upon the inside of the corners of the frush, and all the outside of the shoe, which is next the ground, must be quite flat like to another shoe, and then you shall have a right panton shoe for your horse (37).

It is necessary when you place the sponges of this shoe upon the end of the heel, which is the extremity of the quarter, that the said extremity of the quarter rest upon the middle betwixt A E, D F, which is the sloping part of the sponge; but for all that, the inner edge of the quarter A G, must not rest wholly upon the sole, although kept strong, which should be always done when you make use of these kind of shoes, for although all shoes should be prevented as much as possible from resting too much upon the sole, yet it is sometimes necessary to suffer this fashion of shoes to rest a little upon the heels, and the inner edge of the sponge almost always touches the frush; therefore the sole should be always kept strong, especially at the heels; afterwards anoint your horse's feet, which are shod after this fashion, with the hoof salve before mentioned, and keep his fore feet amongst his moistened dung. If you continue this method his heels will infallibly open and enlarge; the horse, if you have weakened his soles too much, may at first favour his feet with these kind of shoes, but his feet will strengthen through a little time and rest; these kind of shoes are not fitted without time and pains, and the smith must not be slothful to put the shoe in the fire again, either to open or straiten the sponges, according as there is need for it, for that cannot be done at the very first; and there is no smith that is able to fit and fasten two of these shoes in less than an hour, for the shoe must follow exactly the shape of the foot, as well at the heel as at the toe; and although the inner edge of the sponge enter but the thickness of two crown pieces within the heel it matters not; for, in a month's time, the heel opening will cover it all; when the panton shoes are forged, fitted, and ready to be put on, they appear, to those who are ignorant, very strait and narrow at the heels, because they follow the shape of the foot, and therefore seem ridiculous to those who know not the good of them (38).

The reason why the use of these kind of shoes opens the heels, and helps hoof-binding, is, that when the heel grows it is forced outwards by the shoe, because the sponge, which is thicker a great deal on the inner edge than on the outer, hinders the heel to close, and on the contrary forces it outwards, so that either the hoof must not grow, or of necessity the heels must enlarge and open, if the shoes be right placed.

You must continue the shoing after this fashion until the heels be well shaped and large, which will be infallibly after twice or thrice shoing; the use of these shoes is admirable, in that they never shift upon the feet, but remain firm in one place, being kept fixed by the thickness of the inner edges of the sponges (39).

A horse shod after this fashion is many times unserviceable at first, and a little time must be allowed him to strengthen his feet amongst his moistened dung.

People must not think to travel with these kind of shoes, at the beginning when a horse is shod with them, and before he be accustomed to them, for seeing they press the foot, they would cause him to halt; but they may take the air upon a horse shod after this fashion, make him ride in the manage, or do any other moderate exercise, provided it be upon soft ground; and after the horse has been a little accustomed to these shoes, he will not halt with them although you travel him; for I myself have made long journeys with horses which carried them; I have also made use of this method for mules which had narrow heels, who found a great advantage in it; for although they were planch shoes, as those shoes made use of for mules are called, which are forged close at the heels without any opening at all, yet I caused them to be so forged, that the planch shoe sloped at the heels as the panton shoe, and did therefore also open the mule's heels after the same manner (40).

If you have a journey to make with a horse which is hoof-bound, but doth not as yet halt with it, you must not at all take down his heels, although I heretofore ordered you upon other occasions to do it, but on the contrary you must keep his heels as strong as possible, and drive the nails only in the toe, for the heel being high and narrow, you will not easily get them driven there, neither could your horse suffer it, and then your horse will travel with you as you please; indeed this will not be the way to help his hoof-binding, for, on the contrary, it will make it worse, but it is only to cause him to perform his journey that you do it (41).

If your horse be so ill hoof-bound that he halts to the ground with it, the best and readiest cure is to take out his soles, and put shoes upon him which have long sponges. Not but that the kind of shoes which I have been discoursing of help, and will through time open his heels, but it will require four or five months' time; whereas, if his soles be taken out, he will be cured in three weeks or a month, providing that care be taken to open his heels by cleaving the frush when the sole is out; or by putting in a plate of iron betwixt his heels, so that it may keep them further asunder than they were before, and by fixing that plate, the frush, which is softer than the rest of the foot, will yield and open, and so make the heels in a condition to become large; but it is sooner done to give a stroke with an incision knife, and so to cleave the frush down almost to the pastern, putting in some rolls of linen in the clift of the frush to keep the incision very open; the sole will grow again, and keep out the quarters. The shoe must be made to answer to the foot, which is already made large, and the heels in growing will not close or straiten if the horse be right shod. This which I shew you is founded upon several experiments which succeeded very well with me; for the sole beginning to grow will keep out the heels, and if there be need for it, you may afterwards shoe with half-panton shoes, as in the next chapter.

There are some horses so very ill hoof-bound, that although their soles are taken out, yet their heels can scarcely be forced out to get that plate of iron right placed, which should keep them open and asunder; for those kind of feet, you must, when the sole is taken out, force asunder the hoof at the heels, so that you may oblige them to separate, but great care must be taken in forcing the quarters this way, that you do not separate the horn from the heel, for then you would cause the horse to cast his quarters; after you have thus forced his heels open, put in that plate of iron, which resembles somewhat the blade of an old knife, which will keep his heels firm and open, until the soles grow again, and so keep them out themselves: but the shortest way is to cleave the frush as already directed, and after the shoe is fastened on, and the charge or apparel for cure put upon the sole, fill that clift very well with bolsters or rolls of linen, first dipped in healing charge; tie all up with a cloth to keep them fast, and keep always that clift very open, until the sole be wholly filled up again: after which, if you shoe your horse with a half-panton shoe, it will make his heel become very large and well shaped; this is easier than to force the quarters by making use of the plate of iron above-mentioned, although that method be also very good (42).

CHAPTER VI.

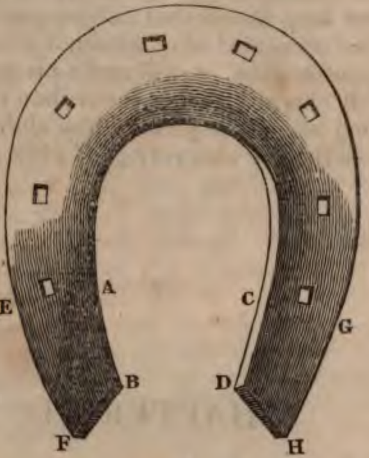
HOW HORSES WHICH HAVE CLIFTS, COMMONLY CALLED FALSE QUARTERS, ARE TO BE SHOD.

FOR horses which have cloven or false quarters, you must make a shoe after the fashion which I call the half-panton shoe; this method of shoing may also serve for horses whose hoofs begin to close and straiten at the heels, for it comes near to the figure of the panton shoe, because the branch is turned upwards, and makes the same slope that the panton shoe does; but the side of the shoe next to the ground is not the same, because there is but one edge of the sponge, to wit, the outmost edge, which touches the ground, whereas the under side of the panton shoe is quite flat: these kind of half-panton shoes do not force out the heels so suddenly as the whole panton shoes, and therefore are good to be made use of at first, to cause the heel to spread (43).

The panton shoes have the inner edge of the sponges a good deal thicker than the outer, whereas the demi-panton have both the edges of equal thickness; dexterity is requisite to turn the sponges properly, so as to give them a right slope, and make the shoe hollow or vaulted next the ground.

The shoe E F, G H, which is represented in *Fig.* 3, is a

Fig. 3.



half-panton shoe, which is to be put upon a horse which has one or more false quarters, and consequently narrow heels; you must then make the whole branches, and also the sponges F B, D H, stronger than ordinary, afterwards turn them up, so that A B, C D, may be higher than the outer edge E F, G H, and you will find that betwixt A B, and E F, the shoe will slope outwards, also the other branch C D, G H, will do the same; the rest of the shoe will be altogether flat upon the ground as an ordinary shoe. I here represent the inner side, or foot surface, of the shoe; the under side, or ground surface, of the same shoe must rest upon the ground the whole compass of the shoe. Now in vaulted shoes the sponges are reversed, for in them they are turned outwards towards the ground, whereas in these they are turned in to the foot.

To set on and fit the half-panton shoe, you must keep the sole strong at the heels, and so fit the shoe, that the middle of the heel which makes the extremity of the quarters, may be set just upon the sponges F B, D H; always taking care that the inner edges of the said sponges rest not wholly upon the soles, although if they rest a little upon them it matters not; then drive your nails neatly, and see that they be very thin in the shank (44).

When the shoe is put on to remain, that is to say, when it is nailed and rivetted, pour into his foot tallow and pitch melted together; fill up the hollow with hurds, and put in splinters of wood above them to keep all fast. It will be very proper to put the oil of bays scalding hot into his foot, with hurds and splinters, as above directed, for it will penetrate, soften, and strengthen the sole, forced to enlarge by the foregoing method of shoing; or pour tar scalding hot into his foot; or, without making use of any of these, let him always stand upon his moistened dung until he leave halting, which will be within four or five days, less or more, and during that time anoint his hoofs at the coronets with hoof salve, and although he perhaps halted before, because of the pain which his false quarter or narrow heels gave him, yet this method of shoing will give him ease. The false quarter or *seyme* will close up to the hair, and the horse will recover; but if this method of shoing do not the business, have recourse to the chapter where the cures of *seymes*, or false quarters, are particularly treated of (45).

There are some horses, especially your light kind of horses, which have unequal heels, in so far as the one stands higher than the other, which is easily perceived by looking to the heels, just at the pastern; there is no other help for them, but to make use of this way of shoing with the half-panton shoe, or to take out their soles and cleave the frush to the very bottom; that so, when it grows up again, you may keep the heels at an equal height (46).

When horses, which are appointed to ride in a manage their whole life-time, or those which are always rode upon soft ground, have false quarters, the old custom is, to cut short and retrench the quarter of the shoe, to the first nail-hole from the sponge: but it is not possible, to cause a horse shod after that fashion to travel in the country, nor even along the streets, if but a little distance from the stable to the manage.

For horses of manage which are hoof-bound, people shoe them with *lunette* shoes, which are as it were half shoes, because their quarters are retrenched to the first nail-hole from the sponges, which is also an old custom (47); some make such horses work without shoes, which does little more than nothing, for horses which have no shoes have no grace or movement; it is therefore better to shoe them with half-panton shoes, because when their feet grow they will take a better form and shape, and if you pare them also right, with this way of shoing, you may come to cure them (48). As for such persons, as pretend never to shoe their horses of manage, I see so few of them who have that opinion, that I scarcely think it can be defended: it is therefore proper to shoe manage horses as well as others, and such persons, who out of a little frugality have forborn, have found the bad consequences of it: I am therefore of opinion, that a horse should never be unshod for good and all, until he be dragged to the dung-hill, or lay-stall. I knew a person of quality, who would have all his hunting horses kept without shoes, assuring himself that, with a little custom, their soles would become as strong and firm, and endure as well as those which were shod; but some of them I saw standing upon their litter, not being able to support themselves upon their feet without, because of the pain which they had in them, the rest of them had their legs spoilt, and that was the result of this gentleman's fancy. Indeed, in Germany and in countries where there is not the least stone, the country-people's horses are not shod, but I do not believe they are the better for it; and certainly they would serve better were they regularly shod, for they have their feet all awry; because when they are travelling they set their feet to the ground sometimes turned out, and sometimes in, according as they rest upon their feet more upon the one side than the other, which makes their feet, through time, very misshapen and disfigured; but the countrymen are not much troubled at it, for providing they jog out the way with them, they are satisfied (49).

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CHAPTER VII.

OF SHOING HORSES, WHOSE LEGS, FROM THE KNEES, GO INA STRAIGHT LINE, AND APPEAR AS IF THEY WERE OF ONE PIECE;—ALSO OF THOSE, WHOSE PASTERN-JOINTS BEND SO FAR FORWARDS, AS TO APPEAR DISLOCATED.

THERE are some horses, which when standing have their legs, from the knees to the coronets, in a straight line, called in French *chevaux droits sur leurs membres*, which must be recovered, by taking the heels down almost to the quick, without hollowing the quarters; which will force the sinew to stretch, and the pastern-joint to retire into its place; if, when you take down the heels the leg falls not far enough back, and that the horse continues to carry his pastern-joint too far forwards, you must then make the shoe exceed the toe in length half a finger breadth, and it must also be made thicker in that part than any other; in the meantime that you give him this kind of shoe, anoint the back sinews of his legs with the ointment of roses, of march-mallow, of populion, and honey, of each a like quantity, mixed cold, to make the back sinews stretch the more easily, and bring them to that condition, wherein they ought to be: horses which have high heels are more subject to this infirmity than others.

A horse is said to be *boutté* or *boulettez*, when the pastern-joint goes out of its place, by bending too far forwards; and to help it, you must take down the horse's heel to the very quick, without opening it, and give him a shoe which must appear all round his toe, two fingers breadth without his foot, and anoint the back sinew of his leg with the ointment above described; for this way of shoing stretches the sinew, which violence would occasion some swelling, if it were not assisted by such an ointment as this, to take away the pain and soften it; and also at first, when he carries these kind of shoes, it is proper to walk him in hand, to assist the joint to fall into its right place again: you must therefore at first let his sinew stretch by degrees upon plain ground, for in going up hill the sinew would stretch too much, and partly also in the stable; but if your horse be absolutely *boutté*, and that the joint be altogether advanced, with difficulty will he be cured of it, if it be not by cutting the sinew, as I shall shew you hereafter, a little lower than the *ars*, (as the French call it,) which is a vein upon the inside of each fore thigh a little below the elbow, called the basilick vein, and by common farriers the plat vein (50).

People practise this method of shoing, not only for mules, but also for pack and carriage horses, especially in hilly countries, because being heavily loaded, when they come down the hills, they would be very apt to advance their pastern-joint too far forwards, were it not for the help of this kind of shoe, which exceeds the foot at the toe, and keeps the sinew stretched, and the pastern in its due place, by forcing it to bend more backwards than otherwise it would: the extent to which the shoe is made to exceed the foot at the toe must be regulated by the necessity for it.

There is another reason, why that in plain countries as well as in hilly, people make these kind of shoes exceed so far the mule's toes, and that is, because they have very high heels, and but weak feet, so that people dare not pare them down, because in them consisteth the whole strength of their feet; the heels therefore remaining very high, if they were not shod after this fashion, they would have their pasterns cast forwards, and their high heels would make their sinews shrink, and the bone of the pastern-joint to bend immediately forwards.

I must by the way tell you, that people shoe mules which have good feet with shoes *à la fleurentin*, which shoes have a swelling welt or border round them, and those which have weaker feet, with planch shoes.

If horses which have their legs from the knee to the coronet in a straight line, and also those which have their pasterns already cast forwards, do not recover by the method of shoing, which I have shewn, you must then have recourse to a manual operation, which appears dangerous, but is not so: to perform which well, you must observe, that horses which are extremely troubled with the infirmities I have been mentioning, have a sinew or rather muscle, at the *ars* or plat vein, and a little below the place where they bleed horses in that part, which is near to the insertion or joining of the fore-thigh with the shoulder: that sinew or muscle is about the bigness of one's little finger, very much stretched and stiff, and lies straight up and down all along the leg; now it is that muscle or sinew which makes the motion of the pastern-joint, and being stretched after this fashion keeps the joint forwards, and hinders it from being in its ordinary situation; a certain token that it does so is, that those horses which have neither of these two before-named infirmities, have not this muscle stretched, but quite covered and hollow, so that people with difficulty can find it out; but in those who have them, this muscle is found at the very first feeling, and it appears clearly to be stretched and not as it naturally should be (51): having found out this muscle, which is easily done, open with an incision knife, the skin downwards, four fingers breadth below the *ars* or fore-thigh vein, then cut the muscle or sinew quite through cross-ways, not all at one cut but by degrees, although you must at last cut it quite through; and after it is done wash the wound with brandy, and put salt in it, and work the horse after the wound is healed, and the swelling has subsided: thus the pastern will fall into its natural place by degrees, and if the operation has been dexterously performed, the horse will bleed but very little, and the wound will also heal up of its own accord; there are some very sensible horses which will be eight or ten days without lying down after this operation, but people must not be surprised, seeing there is not the least hazard in it: sometimes people in making this operation, through carelessness, cut the *ars* or fore-thigh vein, when they have made the incision too near to the vein, and then the horse will bleed very much, but there is not the least danger in it; let the horse bleed sufficiently, then stop the bleeding, by filling the orifice with rabbit or hare wool, and afterwards sew the skin together in two places; there will gather a little matter, but by greasing the wound, in eight or ten days and sometimes sooner it will be healed; before this operation is made, the horse's heels should be very much taken down, and then shod with planch shoes as the mules are, do this three or four days before the operation, and also walk the horse abroad, that so he may be accustomed to them, after which perform the operation (52).

People make the like operation upon horses which have their pasterns altogether cast forwards, by cutting four fingers breadth higher than the knee, just upon the fore part of the fore-thigh; they first cut the skin above the sinew, which is very stiff and stretched upon the fore part of the leg, they then raise the sinew with a *chamois*, or wild goat's, horn, by putting it beneath the sinew; afterwards they cut it quite through to the horn; they fill the wound with salt, and put hurds or coarse flax, dipped into warm turpentine, above it, and prevent the horse getting at it with his teeth; to keep the apparel fast, they wrap the part about with a cloth sewed on, for fear of pressing the leg too hard which would cause it to swell; they leave him in that manner and dress him not for some days, but they bleed him the very next, anoint his whole leg with the duke's ointment (53), and repeat the dressing every day for eight days; the horse, during that time, may be walked in hand, and the pastern will fall into its place; this operation is more difficult than the former, and succeeds well enough with horses which are altogether *boulettez*, that is, have the pastern cast very far forwards, and as it were quite out of place, which makes the sinew so stretched, that it is quite raised from the fore-thigh and very much advanced; but if a horse be but in a straight line, from his knee to the coronet, and the sinew we have been discoursing of, be not much raised from the bone and excessively stretched, it might in that case do prejudice, as I saw it do to a horse, which had one of his legs from the knee to the coronet, in a straight line only, and in the other the pastern was cast quite forwards; the leg in which the pastern-joint was cast forwards, the operation succeeded admirably well, for the sinew was detached and very much elevated, but for his leg which was only in a straight line from the knee to the coronet, the sinew was not altogether raised, and so the horse was two months recovering.

Now people run not that hazard in making the other operation, which is performed four fingers breadth below the fore-thigh vein, for it can never do any prejudice although the sinew be but very little raised and advanced; therefore except a horse have his pastern-joint quite *bouletté*, or cast forwards, I would not advise you to cut the sinew a little above the knee. This is enough upon this subject (54).

CHAPTER VIII.

OF ARCHED LEGS.

WHEN horses have their legs arched, or bending forwards at the knee when standing, in French, *jambes arquées*, people may also cut the above-mentioned sinew, as they do to horses which have their legs from the knee to the coronet in a straight line, and if they begin with the shoing as I have before ordered, the operation will succeed well; for after all is done you will see how neat the legs will appear in comparison to what they were before; you are to begin with the shoing, and you cannot pare the heels too low, that so you may force and compel the sinews to stretch: at first when you make use of this invention, the horse may halt with it, but you must anoint the back sinews with some softening ointment twice a week, having first warmed the sinew by chafing it with your hand; this will soften the sinews, take away the pain, and so facilitate their extension.

If after having taken down the heel, as I have told you, the leg be not in the position you wish it, being still very much arched at the knee, you must then make for him a planch shoe, such a one as is used for mules, which must go beyond or exceed the foot at the toe two or three fingers breadth, and rise also a little towards the edge; fasten it upon the foot, and then anoint his sinew with the aforesaid ointment; let him stand after that manner, only walking him in hand every day about an hour, and in a short time you will see the good effects of it.

If nevertheless, it produce not the effect which you might expect, then cut the sinew a little below the *ars* or fore-thigh vein, as I shewed you before, and if that make his legs swell, as it sometimes does, be not surprised at it, but anoint him with an ointment made of populion, honey, and black soap, of each an equal quantity, mixed cold, with a small portion of brandy; continue to walk him every day in hand; but you must observe never to cut that sinew, until you have first taken his heels very well down, and shod him with shoes which exceed his feet at the toes, as those do which are made use of for mules.

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CHAPTER IX.

OF HORSES WHICH TREAD ONLY UPON THE TOES OF THEIR HIND FEET, IN FRENCH *CHEVAUX RAMPINS*, ALSO OF THOSE WHICH TRIP OR STUMBLE.

THE *chevaux rampins*, are those horses which tread only upon the toes of their hind feet, without at all resting upon their heels; young horses are not so subject to this infirmity as old, and through time it becomes incurable; you are therefore to practise upon them a part of the treatment for horses which are *bouttez*, or have their pasterns bending forwards, as if they were out of joint; but as the infirmity of being *bouttez* or *boulettez* is in the fore legs, this other is in the hind: people, then, ordinarily begin with taking down the heels very much, and then give them shoes which are a little longer than the foot at the toe; they well anoint the sinew of the hind leg, and so the horse in a short time will recover, but you must continue always to take down his heels extraordinarily, and keep his toe very long; also if it be necessary you must make the shoe exceed his toe; the surest way is to make it exceed his foot at the toe an inch or two.

It is also very fit, that the stable where you put such horses which tread only on their hinder toes, be equal and not full of holes where their hind legs stand; if there be a hole, the horse will be sure to have his hind feet in it, and so you will have all to begin anew again; this is of greater importance than people imagine, for young horses by standing in such uneven stables, where their hind feet were constantly ill placed, have at length rendered their hind quarters so mis-shaped that they appeared maimed: there are some people when they see a horse that treads only upon the toes of his hinder feet, say that he is roosted or perched, in French *juché* (55).

A horse which stumbles must be shod quite contrary to those which tread only upon the toes of their hind feet, for you must take down his toe very much, and also shorten it, to the end he may not meet so easily with the clods and stones upon the highways.

But if those horses which stumble have their sinews troubled, their legs spoilt, or if their shoulders be weak, then you must have recourse to another cure than shoing (56).

If your horse over-reach, which is, when with his hind feet he overtakes the heels of his fore, you must shoe him so that the sponge of the shoe may follow the turn of his foot, as I ordered you before: it is commonly a sign of weakness, when a horse is subject to over-reach (57).

Other people, after the Spanish fashion, turn up the hind-feet shoes at the toe, as they do the pack or sumpter horses fore-feet shoes in hilly countries, which method is not bad, for when horses over-reach, they do not so easily with these pull off their fore-feet shoes (58); it is certain that the rider is often the occasion of a horse's over-reaching, because through his ignorance he knows not how with his bridle-hand, and by the fear of his spurs, to keep his horse *together* and firm under him; it is true that an action which is constrained, cannot endure long, and far less the whole time of a long journey when weariness seizes a horse; but a man should always now and then advertize his horse, and if that prevent not his over-reaching, you may then freely say that he wants strength, or that he is quite spoiled (59).

CHAPTER X.

HOW TO SHOE HORSES WHICH HAVE BEEN FOUNDERED IN THE FEET.

THERE are few horses, that have been foundered in the body oftener than once, which have not some of the humour which occasioned the foundering fallen down into their feet, some more and others less, therefore it is necessary to shoe them after some certain regular method, which may help and recover their feet as much as possible (60).

Now feet into which the foundering humour is fallen, are commonly mis-shaped and disfigured, because the point, or that part of the coffin-bone or little foot which is most advanced, falls down, and presses the sole, and the middle of the hoof above the toe shrinks in and becomes flat, because of the hollowness beneath it, occasioned by the falling down of the end of the coffin-bone; and when the bone of the little foot has fallen down after this manner, and presses the sole outwards, people then say that the horse hath crescents, although those crescents be really the bone of the little foot, which has left its place, and fallen downwards, and the under part of the foot, to wit the sole at the toe, appears round like the segment of a ball, and the hoof above shrinks in, neither can it be otherwise, for it is empty and hollow: therefore a part of the coffin-bone or little foot has, as I said, fallen down, and left that space wherein it stayed empty, and being empty, the hoof at that place is not supported by any thing, and therefore must of necessity shrink, or fall in (61).

The very same happens to horses, which have had a great numbness in the coffin, called in French *l'etonnement du sabot*, which is, when the same coffin-bone or little foot I was just now discoursing of, becomes loose at the toe, and quits its natural situation: the flesh, which surrounded it and joined it to the coffin, dries up, and there remains a void and empty place; and seeing the little foot is loose and detached, at the end next the toe, it falls down and forces the sole, which covered it, downwards, so that the fore part of the hoof appears like a crescent, and the sole as if there were another little bone grown below the little foot, which pressed it downwards; whereas there is no such thing, for that crescent is nothing else but the bone of the little foot, which has quitted its natural situation near the toe, and having fallen down, it goes beyond its natural bounds, and makes the hoof at the toe appear of the shape of a crescent, more or less, according as the bone of the little foot is more or less fallen down. Now the causes of this disease are almost the same as those of foundering in the feet, at least these two infirmities give the same symptoms, which are the crescents, and the horses tread only upon their heels, so that in travelling they set down their toe a pretty while after their heel, and by their very walking you will perceive, that their toe is altogether weakened and without nourishment, for they can rest upon no part of their foot but their heel, and that also but crazily (62).

Now for all these infirmities of the feet, where the foundering has fallen down to them, or that there be a numbness in the coffin, the horses are a long time recovering, so that a year's time will produce but little amendment; therefore the best and surest way is, if you cannot get such horses sold, to give them away (63): I here write only for such horses as have not been long foundered in the feet, and therefore for them you shall observe these directions.

People should never pare a horse much at the toe that is foundered in the feet, because the sole in that part should be always kept strong, to the end that if there be any appearance of a crescent, it may be prevented from coming any greater length, and so may be taken away by nature, which will not I assure you be done on a sudden; and also you must not take down his heels much, for all the strength of these kind of feet lies in the heels, and so soon as the horse is shod, pour into his sole oil of bays without any mixture, scalding hot, with hurds or coarse flax above it, and splinters of wood to keep all fast, and continue for seven or eight times, once every other day, to pour the foresaid oil into his feet (64).

Horses, which have great founderings fallen down in their feet, should never be longer in having their soles taken out than three months at most after their foundering; and when their soles are out, the whole crescent should be fired, that is to say, burn the whole end of the bone of the little foot which is loose, that so it may fall away; but I think it by far more proper not to take out such horses' soles at all; but to keep the sole always strong, and to pour into it the oil of laurel or bays; be careful also to buy the true oil of bays, for that which people sell commonly, in most shops in Paris, is worth nothing (65).

CHAPTER XI.

OF CALKINS.

THERE are many towns, both in France and England, where the streets are so uneven, that none of the horses which draw in them can keep their feet from slipping, without being calked; in Germany, all the horses are calked as well in the country as in the towns, without so much as excepting the manage horses: a German would not suffer a horse in his stable without being calked, whereas, on the contrary, a Frenchman would not suffer one in his that were so.

If you are necessitated, through the unevenness of the streets, or because of some other motive, to calk your horses, as I shewed you when I spoke of low-heeled horses, you must, to make a calkin, turn down the inner corner of the sponge upon the corner of the stithy or anvil, and fashion the calkin after the shape of the point of a hare's ear, in French *en orielle de lievre;* great square calkins spoil a foot strangely, and occasion *bleymes,* which is an inflammation occasioned by a corrupt or bruised blood within the sole at the quarters (66), whereas these, after the fashion of the point of a hare's ear, do little prejudice, if people take but the pains to pare the horn a little low at the heel (67): the use of these kind of calkins is tolerable, when there is a necessity for having any, because of two evils the least is still to be chosen.

This opinion may appear somewhat problematical, although really it be not; for those who approve of calkins say that when a horse is travelling upon a way which is a little slippery, such as those highways which are fat and full of clay, or that there has been but a little rain, he frets and fatigues himself extremely to prevent his slipping, when he is shod smooth, or without calkins; and also that a horse which will not at all sweat in his ordinary travelling, yet step him as softly as possible upon a slippery highway in the summer time, and he will sweat more in riding one hour if he be smooth shod, than he would do in three, were he travelling in a country where he is not in hazard of slipping, which is a certain sign that he wearies and fatigues himself.

Whereas, if a horse were calked, he would, as they say, perhaps sweat less, because he would not be so apprehensive of slipping, and therefore would not fret so much, which would be easier both for the horse and rider, and so both would be the better for it: those, who approve of calkins, look upon this reason as unanswerable, whereas I think it but of little force.

Indeed, there is not the least doubt, but people should calk their horses in time of frost, without considering whether or not it will be prejudicial to their legs or feet, for necessity hath no law; and it is better that the horse spoil his legs, than that the rider should be in continual hazard of breaking his (68).

Those who disapprove of calkins, maintain that they trouble and spoil the feet, and, in my opinion, they are in the right; for they cause the back sinew to shrink, and make horses have their legs in a straight line from the knee to the coronet; the pasterns to bend forwards, as if they were out of joint, and the horse to tread only upon the toes of the hind feet, and trip: they also say, and it is true, that horses so calked do not walk at their ease; they also affirm, that calkins benumb and ruin the foot if it be weak, or that at least they are the occasion of *bleymes,* that they also trouble and spoil the back sinews, and are altogether the ruin of a horse: my opinion is, that calkins spoil the feet, trouble the heels, and ruin the back sinews; nevertheless in winter, and in the time of frosts and snow, calkins are good and convenient, especially for such horses as have no defect in either their legs or feet.

However, neither in good nor bad ways, unequal grounds or mountainous countries, would I ever make use of them, except upon a necessity; neither must people mention calkins for manage horses, or horses which daily ride in the schools, unless they intend to render themselves ridiculous; because horses of manage should not be shod as ordinary travelling horses, and therefore people commonly put upon them shoes half after the English fashion, which are better than the French shoes, that are too broad in the web, and too weighty; now these other are lighter for the horse's legs, and the earth does not gather so easily in them, which dries the foot extremely; besides shoes, made half after the English fashion, are not so apt to press upon the sole, nor to occasion *bleymes,* as any other kind of shoes are.

For all horses, which work only in a manage, take down their heels to the very quick, without hollowing the quarters; and if the foot be so altered that it is very dry, as it often falls out, then soften it with moistened horse dung, or with a good remolade or softening charge (69).

In Paris, and other great cities, or in stony countries, people shoe their horses with shoes which almost cover the sole, to guard against street nails and little stones which spoil their feet: were the feet of coach and cart-horses in Paris and London wholly covered by the shoe, it would prevent many accidents; but then sand and gravel would get between the shoe and sole, and the foot could not be cleaned: besides the sole and frush being too close covered would rot and putrify, for lack of air.

Some people, to prevent their horses finding of nails, or rather stubs, never pare their soles, but let them grow as thick as possible, that so their hardness may resist the street nails, but far rather the stubs, which horses find in new taken-in grounds, when they are hunting; the smith then has nothing to do, but take a little from the horn to fit the shoe right, and to fasten it so that it may not touch the sole (70).

But when they perceive the sole begin to crack or split, because there always grows as it were a new sole, as also a new frush, then of necessity they must pare their horses feet, to take that off which would otherwise, but for the shoe, fall away of its own accord, but they never do it upon any other occasion; so that by this means they pretend to hinder any thing piercing their horses soles: some hunters make very much use of this method, which is not bad for some kind of horses, but it may very readily occasion *bleymes,* which are often more difficult to cure than a prick caused by a stub; and when a horse's feet are suffered to grow too long, they often make him trip easily; however, this method may be tried.

People use not planch-shoes for coach-horses as they do for mules, because the planch-shoe is altogether close, except an opening in the middle about the bigness of a crown-piece; planch-shoes might prevent a great many pricks with street nails, by which so many horses are daily lost; but the difference between them and mules is considerable, in so far as the greatest strength of mules feet lies in their heels, whereas in horses it is in their toes, speaking of their fore-feet, so that a horse's heels cannot be kept so high as a mule's; besides a little opening or passage is left for mules, betwixt the shoe and the sole, at the toe of their fore-feet, through which the water may run, which cannot be done to horses, because the whole strength of their foot would be taken away with it; the chief reason why people make not coach-horses shoes quite close is, because horses feet are more moist than mules are, so that if they had not air, they would in the winter time rot, because of too much moisture, and in the summer time become too dry or hard, being quite covered and altogether without air (71).

And besides, the planch-shoe indeed preserves the foot, but it spoils and ruins the leg, and the shoes *à la Florentine,* or welted shoes, preserve the leg and spoil the foot. Let this be said by the by, upon this occasion of discoursing of mules.

The English shoes are light, and excellent for horses which have weak feet, but they easily break upon the streets, and in stony countries the flints occasion bruises; indeed the adroit English smiths forge a light shoe to admiration, there can be nothing wrought better, and more equally, and they make them extraordinary good, because their iron is better than ours; in their country, where the ground is soft and without stones, those narrow webbed shoes are good, but in this country they would not do well at all. An expert English smith holds the horse's foot himself, pares it, fits the shoe, and drives the nails, without help; he holds the horse's foot betwixt his knees, and takes off his shoe and puts it on again all alone: this is a thing which none who have ever been in England can be ignorant of (72).

The Turks excel all nations in the world for shoing; they beat and forge their shoes without any opening in them, and almost cold, as people do silver; a horse's four shoes will not weigh more than one of ours, and they will last almost as long: but the iron which they make use of, and their country which is soft and free of stones, contribute much to this (73).

CHAPTER XII.

HOW TO SHOE HORSES WHICH CUT OR INTERFERE.

IT is a considerable infirmity when a horse cuts himself, or interferes, that is, when he takes off the skin from his pastern-joint, by striking it with the opposite foot; and the horse merchants in Paris say, that a horse cuts his hose, or spoils his silk stockings: it is therefore both necessary and convenient to know the means to prevent it, but before I give you the cures which may be practised upon horses which cut, I have to remark, that in buying horses, if they cross their legs much when they walk, people may conclude that they will be subject to interfere; this is very probable, but there is also something else in it that is of more consequence, which is, that those kind of horses strike the one leg against the other in different parts, so that people cannot well perceive if they cut themselves, when they strike their legs the one against the other after this fashion: for if it be upon a sore or tender part, they will halt the next step after the stroke, by reason of the pain, and therefore people will sometimes think the horse's legs are spoilt, although they be very good, for the pain which the stroke occasions makes him halt; and this way of striking the one leg against the other, is worse than if they cut themselves on the pastern-joint, because for this there may be a cure, but for that there is none. To prevent being deceived by it, never buy horses which cross their legs after that manner upon a walk, although people may endeavour to persuade you that they do not cut themselves, for it is likely that when they are weary they will first cut themselves, then halt, and perhaps afterwards go topsy-turvy.

This imperfection is easily known, for people at first view perceive the skin upon the insides of their pastern-joints to be cut, and many times galled to the very bone, so that the horse frequently halts with it, and has his pastern-joints also swelled.

Shoing is one means whereby to help such horses as cut, and it is easy to do it in the beginning while they are yet young, and that their not knowing how to ride, or rid their limbs, as we say, is the cause of their cutting.

There are four things which occasion a horse's cutting himself; the *first* is weariness, the *second* weakness in his reins, the *third* not knowing how to go, or rid his feet when travelling, and *lastly* his not being accustomed to travel nor sure in his step; I might also add to these, his being badly or too old shod, but I suppose that the horse be for the most part indifferently well shod; so you see he may for one of the four preceding reasons cut himself, and it falls out more frequently in the hind legs than in the fore.

If then a horse cut himself through weariness, I know no better remedy than to let him rest, and feed him well; the barbs, which are led in hand, easily strike one leg against the other, and almost always cut themselves, because they walk very coldly and negligently, which is contrary to other horses, who cut themselves, because they lift or raise their legs too high when they travel, which wearies and fatigues them in a short time, so that at length they interfere and cut.

When people see a horse which cuts himself, they should not at first sight condemn him for it, until they have examined whether it may not have been the clench of a nail which has occasioned it, or that the shoe exceeds too much his quarters, upon the insides.

Every horse, which after a long journey has not cut himself, gives a favourable token; and proof of his goodness;

for there are but few, which after a long journey, are not found to have cut themselves, less or more.

If a horse cut before, you are to take off his fore shoes; and take down very much the outer quarter of each foot, and place the inner edge of the shoe so that it may follow exactly the compass of his foot without any ways exceeding it; then cut the sponges equal with the heel, and clench the nails so exactly into the horn, that they may not at all appear above it; or that you may make the rivets the more close and flat, burn with the point of a hot iron the horn a little below the hole of each nail, and then beat down and rivet them in these holes.

If the horse, after this method of shoing, continue still to cut himself, you are then to thicken the inner quarters and sponges of his shoes, to double the thickness of these upon the outside, and always pare down very much his outer quarters, even almost to the quick, and without in the least touching those within; but be sure always to clench the nails very justly and close (74).

If he cut behind, you are also to unshoe him, and pare down his outer quarters almost to the quick; give his shoes calkins only upon the insides, and such a turn as may make them follow exactly the compass and shape of his foot without exceeding it, especially in the inner quarters, and above all clench the nails exactly, for one single clench may occasion great disorder.

Calkins, which are only used upon the insides of the hind-feet, are, generally speaking, more advantageous, and more graceful, than those upon the out, as most people use them, and without any kind of reason, except it be for such horses as carry their feet badly, and wear their shoes only upon the outsides. A calkin upon the inside makes a horse walk more open, more at his ease, and gives his leg also a more natural situation; unless, as I have said, you observe that he naturally wears only upon the outsides, for in that case calkins upon the insides are altogether needless, I mean still for the hind feet (75.)

For horses of manage, people give them no kind of calkins at all, neither before nor behind, because as there is frequently occasion to make them passage upon volts or circles, if they were either fretful, or mounted by persons not very skilful, they would in crossing their legs infallibly give themselves treads upon their coronets, which would be so much the more severe, because of their being calked, and such injuries may turn to ulcers or quitter-bones.

If, notwithstanding all these precautions, your horse continue still to cut, drive no nails at all upon the insides, (76) but make a beak at the toe to keep the shoe firm in its place, and continuing this method for some time, the horse may learn to walk, rid his feet, and interfere no more, although he be afterwards shod after the ordinary fashion, or otherwise, if he be very much fatigued, rest will recover him; but if none of these will do, then for a last resource, shoe him after the Turkish fashion, as described in the last chapter: if you are upon a journey, you may make use of an invention practised by the messengers of Normandy, who put little boots of leather or felt about the pastern-joints, and there fasten them to preserve those parts; the pieces of felt or old hat, are cut narrower at the top than bottom, and therefore are only made fast at top. At first horses find difficulty to walk with them, but in a short time they will be accustomed to it, although the invention, I confess, be both very ugly, and causes also many times the pastern-joints to swell, or at least make the horse to walk with a bad air or grace.

If you have led horses, which are thus subject to cut and interfere, you must use the little boots above-mentioned, or wrap a piece of sheep or lamb skin, with the woolly side turned next the horse, about his pastern-joint, and when that is worn out, apply a new one (77).

Horses, which have tender and delicate feet, and unluckily lose their shoes where they are far from any smith, run the hazard of spoiling and even losing their feet; you are therefore, in that case, to wrap a piece of an old hat about your horse's foot, and to lead him in your hand, until you find an opportunity again to shoe him.

There is an invention of shoes, that may be accommodated to all sizes of feet, and which are made fast without nails, by the assistance of a raised border, which environs the horn quite round the foot, it is then made fast with a vice, which screws it together, so that the foot is inclosed within it as in a box; these shoes are of no use neither for the country nor streets, and the *Sieur Frederick Grison* hath given the design of them in his book of horsemanship, although very imperfectly, and where there are a great many things both to be rectified and added (78).

A country gentleman, observing that his horse had lost a shoe, pulled off one of his boots and put his horse's leg in it, lest he should spoil his foot, and thus made his entry into a great town. I once saw a horse, in one of the best academies in France, that rode in leather shoes, because his hoofs were not strong enough to carry those of iron. The French have neglected to treat of this subject, which is not, however, to be undervalued; the Italians have written very learnedly of it, and, if you are curious, you may inquire for a book entitled *Il Trattato, del Ferrare i Cavalli con i ferri in dessegno di Cæsaré Fiaschi nobile Ferrare se,* but in my opinion he says both too much and too little: I therefore hope that the little I have said upon this subject will be sufficient for your use, especially if you take the pains to read it, and understand the different methods; for there are many people who would with all their heart know and understand things, but few who will give themselves the trouble to learn them.

However, to prevent the trouble which bad feet occasion in shoing them according to order and method, a man should always endeavour to buy such horses as have them good, and so very good that your smith, although extraordinary ignorant, cannot possibly spoil them (79).

NOTES.

Page 1.

(1) THIS term was formerly used in the same sense as the term *horse-dealer* is now. The Duke of Newcastle, who rather preceded Solleysell, when speaking of having refused a high price that had been offered to him for a favourite horse, while in exile with Charles the Second, to whom he taught the art of riding, says, "I was then too great a beggar to think to be made rich by the sale of a horse:" and adds, "I have bestowed many thousands of pounds in horses, and have given many, but never was a good HORSE-COURSER; SELLING being none of my professions."

Page 2.

(2) Who these kings were the author does not inform his readers: but, when roads and wheel-carriages were alike bad, the traveller was dependant on his saddle-horse. It is therefore reasonable to suppose, that in those days, the management of a horse on a long journey was better understood than it is now, that roads and carriages are so excellent. The preservation of the back from injury, and the preservation of the feet from being broken or worn by losing a shoe, were objects of vital importance; and it is not to be wondered at, that the fastening of a loose shoe, or even the making and putting on of a new one, should be a fashionable acquirement.

Shakspeare, in the Merchant of Venice, notices this qualification, and gives it to a Neapolitan prince. Nerissa, in naming over the suitors of Portia, begins with this Italian, on which Portia says, "Ay, that's a colt, indeed; for he does nothing but talk of his horse; and he makes it a great appropriation to his own good parts, that he can shoe him himself." Italy, about the time of Shakspeare, took the lead of the rest of Europe in the arts of horsemanship.

Page 2.

(3) The English farrier, it is well known, holds, without assistance,

the fore feet of all horses between his knees, and the hind feet by supporting the limb partly on the knee and partly on the thigh and hip, while paring the foot and fixing the shoe. This practice simplifies the operation, and enables a farrier to ascertain with a great degree of certainty, if any nail that he drives is taking a wrong direction, by its occasioning the horse to flinch. The English custom is adverted to by Solleysell in Chapter XI.

Throughout the greater part of the continent of Europe, however, this part of the business of shoing is divided between two persons; one of these, denominated the assistant, being employed solely in lifting the foot, and holding it in a convenient position for the operating farrier to fit the shoe and fix it.

Page 2.

(4) The coach-horses of those days possessed but little of that which is now called "blood," and seem generally to have had thin and weak feet; a description of foot that becomes troublesome to the farrier sooner than any other: it grows slow, and from its loose texture wears away and breaks readily. The change of growth which takes place in the horn, on coming from grass to stable, is also considerable in this kind of foot.

Page 3.

(5) The reprobation of this practice is imitated by Coleman; and, from the manner in which he has treated the matter, he has induced a belief that the discovery of the mischief the practice occasions, originated with him. The claim to most, if not to all of his "discoveries," will be found to rest on no better foundation.

Page 4.

(6) To "shrink and straiten in the quarters," describes the state of the foot much more correctly than Coleman's term "Contraction." The learned Professor always speaks of this state as a *cause* of lameness, and enumerates "*Contraction*" in his list of diseases. Solleysell describes this state to be a *consequence*, which it truly is, of some disease or "weakness" in the foot.

Page 4.

(7) The piercing of nail-holes very near the edge of the shoe has become a common practice, and by many seems to be still considered as essential to good shoing. Goodwin, also a practical man, falls

into the opinions of Solleysell, and says, "When the diameter [thickness] of the crust is considered, even in perfect hoofs, and compared with the diameter [thickness] of the shank of the ordinary nail, it cannot excite surprise to see the hoofs of horses split and mutilated in the manner they are, by the nature and direction of the hole; when this is near the outward edge of the shoe, the nails must be pitched inward, and must necessarily be driven a considerable height in the crust, to get hold enough to afford the shoe the necessary support; and the nail having been driven inwards, it must, in the course of its direction through the hoof, before the point comes out, have taken a curved direction, when the curved part being the nearest to the sensible contents, it must more or less have a tendency to press, in proportion to the degree of curve and approximation, on the sensible parts.

"Much depends on the proper size of the nail. I have on many occasions seen smiths, for want of a proper assortment, drive large clumsy nails into small delicate feet; and on the other hand, small feeble nails, not large enough to fill the clumsy holes of a heavy shoe, for a large foot. The nail-holes are generally too near each other; so that the frequency of driving nails so near together, renders that part of the crust a mere shell, full of holes; and the difficulty is great, which smiths frequently meet, in finding even a sound piece of horn to drive the clinch through. It is not unfrequent to observe a smith drive a nail half or three-fourths of the way, then pull it out again, get a fresh nail, give the point a new direction in search of a bit of sound horn to drive some part of the nail in, and repeat this driving and pulling out again eight, ten, or even twelve times, before he considers the nail safe; and it is by no means an uncommon occurrence, when shoes are taken off, to find, where the nails have perforated the crust in the way described, the whole piece come off with the shoe as high up as the clinches."

Coarse nailing must evidently be as old as the practice itself of shoing, since it is much more easy to drive a nail across, or through the hoof, than in any other direction, as the nail being rightly placed may be boldly driven straight forward without fear of mischief; and we accordingly find this method pursued in Spain and other parts of Europe, where the people who shoe horses are inexpert. With shoes fullered very near the edge, the nail, as stated by Goodwin, must be first pitched inwards, to take sufficient hold of the hoof, and again brought outwards by a bevil at the point; so that the nail is bent in driving, and the curvature of its course has to be regulated by experience and skill.

Page 4.

(8) This wise maxim, of there being "a proportion to be observed in every thing," is but little regarded in Coleman's principles and practice of shoing. With him, the shoe and nails of a saddle horse

are to weigh a certain number of ounces; and the shoe and nails for a coach-horse, a certain other number of ounces; and they are all to have thick toes and thin heels at the rate of three to one.

Page 5.

(9) The butteris is an instrument but rarely used by the modern farrier; formerly it was to be found in every shoing-box, and its use was general. The farrier was often, no doubt, tempted to hollow out the quarters—to cut away the bars—and weaken the foot by the ease with which the hoof might be scooped out and sliced away by so powerful a cutting-instrument as the butteris: its abolition has produced good in these respects; but, on the other hand, the strong, tough, and hard foot, which grows fast, wears slow, and carries its shoe a long time, is often very imperfectly pared with so feeble an instrument as the drawing knife. It is not unusual to see the knife glance off from the dry and hard surface of the sole, without penetrating it; and when the knife does enter, very small portions only can be taken off, so that the cutting down of an overgrown foot is a tedious job, and therefore there is more left very often than there ought to be; the foot is hoof-bound, and the horse is lame. To such feet the butteris may be safely and usefully applied, to cut away the greater quantity of the parts that require to be removed, and a finish to the operation of paring the foot may then be given with a drawing knife.

Page 7.

(10) The resting equally round the whole foot, or the *seating* of the shoe to the foot, is a point often neglected. It is true, that although the shoe may not be accurately adjusted to the edge of the crust, the nails will draw them together; but then this can only be done by violently stretching some parts, and unduly pressing others; and the more thin and flexible the hoof, the greater will be the mischief done.

Page 8.

(11) If the stamp used in making the hole in the shoe accords in shape with the conical head of the nail, and the nail is properly driven, it will sink but little, or not at all, into the shoe, however long, or much it may be worn; still the clinches may rise from the hoof, and appear long; for, when the hoof is of a weak texture, it will frequently wear away merely by the pressure of the shoe, so that the portion originally included between the shoe and the clinch of the nails, will diminish in quantity; the clinches are then said to rise, and in reality they do so, by the nails being pressed upwards as the hoof wears away; with such feet, it is therefore often advisable to re-clinch the nails, without removing the shoe on the foot.

Page 9.

(12) Foot-ointments and salves have been discarded by the College, that is, by Coleman; and soakings in water, sometimes warm and sometimes cold by way of variety, have been substituted: but whatever may be the fashion of the times in regard to these matters, there can be no doubt about such ointments as those of Solleysell, and others of a similar nature—and there are many varieties without any essential difference—being very beneficial, giving toughness and pl ability to the hoof.

Horse-dung made wet is a much more manageable mode of applying moisture to the feet than sloppy clay, and much more beneficial than cow-dung, as the comparatively firm particles of the horse-dung afford support to those parts of the foot which do not rest on the shoe: in effect it approaches to the Felt Stoppings invented by me. Coleman has, of late years, sometimes put horses to stand on wet straw, which, however clean it may look, is inferior in effect to the poultice of wet horse-dung. A paste made of crushed linseed was used for many years in the stables of the Prince Regent, under the directions of Goodwin, with advantage. Pure aqueous moisture is injurious to many feet; for although the hoof is rendered soft by it, no sooner has such moisture evaporated—and it is not long in doing so—than the hoof is more harsh than previous to having been soaked. The linseed paste, being oleaginous and mucilaginous, appears to be free from this objection; but then others arise from its great expense, as well as the trouble attending it, and the use of it has long been given up.

Page 9.

(13) The "frush" is only another name for the frog, and these directions of Solleysell shew that Coleman has no claim to any discovery respecting the advantages of preserving this part of the foot unmutilated. The latter writer insists upon a large frog as the criterion of a good foot, and the giving of pressure to this part he empirically urges as a panacea for preventing almost every disease incident to the foot: yet a large full frog is frequently accompanied by a thin and weak sole and hoof, giving but an imperfect protection to the sensible parts. That Solleysell was aware of the necessity for preserving these weak feet is evident, from his direction to merely "blanch," or clean the sole. Indeed, on the score of science, this long-neglected author bears the palm from Coleman, since he abstains from the quackery of recommending one universal remedy for dissimilar complaints, and adapts his means to the object he seeks.

Page 10.

(14) These feet, with large frogs and low heels, a state nearly al-

ways attended with thin and weak hoof and sole, require more care from the farrier than any other description of foot. The hoof and sole being thin and weak wear away very fast, and are besides slow of growth. Every attention is required to preserve as much sole and crust as possible, and to diminish their wear.

Among writers on shoing there are very few advocates for calkins, and yet in practice they continue very common. They certainly render a horse less liable to slip, and are not so injurious in raising the posterior part of the foot as may at first be supposed; for into soft ground they penetrate—on pavement they slip into the interstices—and a perfectly unyielding plane surface is but rarely met with.

Page 10.

(15) Probably so called from the heels of the foot slipping on its surface, or perhaps he means to call it an easy shoe or slipper, which eventually it is, although at first productive of inconvenience. *Pantoufle*, slipper; *soulier en pantoufle*, slip-shoe; *mettre son soulier en pantoufle*, to slip ones shoe on.

Page 11.

(16) These *fers à pantoufle* are calculated to expand the foot very forcibly, and that they were not a mere fanciful theory, but actually used under the eye of an observant author, appears from the fact being stated that they occasion pain, and consequently lameness, when first applied: whether the sensible parts of the foot are compressed by a concave shoe, or "prison shoe" as it is often called, giving the crust a tendency inwards; or is put upon the stretch by a convex shoe, as advocated by Goodwin, giving it a tendency outwards; or the bars are made to press upon the sensible parts included between them and the crust, as brought about by Coleman's patent clip shoe; the effect is pressure in a new direction, and pain is frequently the result. The possibility of this effect being produced by expanding shoes is not mentioned by either Coleman or Goodwin. With pliable feet, highly elastic, these effects are of course much more likely to occur than with strong feet. It often happened that Goodwin's shoe occasioned lameness, which, however, went off on the expansion shoe being replaced by one having a plane surface.

Page 11.

(17) Perhaps there is not so large a proportion of this kind of foot among our common breed of horses, as there was among the comparatively coarse bred horses of Solleysell's time; yet even now they are sufficiently numerous to deserve great attention, although never adverted to by Coleman, who holds a large frog to be the criterion of

a good foot. These feet, with low heels, have always a thin weak crust, and are the most troublesome kind of foot a farrier has to manage: indeed the stable treatment is of quite as much importance as the shoing, and this should have for its object the giving of support to the sole and cavities, by great attention to stopping the foot, whereby the crust is relieved in part from supporting the entire weight of the horse. By attention to this point, by wasting the foot as little as possible in preparing it for a shoe, and the judicious use of emollients, which also promote the growth of hoof, the serviceable duration of this kind of foot may be materially increased.

Page 13.

(18) Solleysell, as well as most other old writers, knew but little of minute anatomy; and the directions he gives, to "bar the vein," seems really to indicate the modern nerve operation, claimed by Sewell as a discovery; and subsequently by Coleman and Moorcroft; as a mode of treatment formerly practised by each of them. Considering how closely nerve, vein, and artery lie together, the ligature employed by Solleysell could hardly avoid including the whole of them. Although he mentions veins only, it is very evident that the operation was not confined to the vein alone, for in that case the ligature above the cut would be useless; but with the artery included within the ligature, profuse hemorrhage would be prevented, while that moderate bleeding which he seems to allude to, would go on from the open orifice of the vein, and also from the lower portion of the artery supplied by anastamosing branches, which, though small at first, soon increase in size, and carry on the circulation as freely as before. If, then, the artery was included in what he merely calls the vein, it is hardly possible, and certainly not at all probable, that the nerve was left out. That he really did not distinguish between vein and artery, is further evident at page 14, by his remark as to pressure upon veins being had recourse to for stopping the flow of blood that takes place from the foot when the sole is taken out.

The directions for shoing these flat feet, and treating them afterwards, are practically good: a portion of the weight of the horse being supported by pressure applied to the sole, relieves the crust and laminæ from weight in a corresponding degree, which enables the hoof to grow more freely, and thereby makes the foot less flat.

Page 14.

(19) The panton shoe is a close approximation to, and the demi-panton shoe is precisely the same as, that which was introduced to notice a few years ago by Goodwin, as an improved French shoe. This supposed improvement most probably emanated from his own reflections; at any rate he gives no grounds for inferring that he was

aware such an author as Solleysell had ever existed, and certainly he does not seem to have understood the full effects of his re-invention so well as his predecessor did.

Page 15.

(20) The erroneous physiology of our author, in many instances, gives a value to his facts, since it materially tends to show that the latter are really the result of observation; and he gives them with minute precision, which could not be the case with mere theoretical opinions, or by endeavouring to follow other writers.

Page 15.

(21) The object of the mere shoing-smith is to send the horse from his forge without being lame, or at least without an increase of previous lameness; and this end is often attained by the vaulted and hollow shoe; still, as our author states, this kind of shoe constrains the foot, and makes it grow progressively worse; but then the change goes on slowly, and the smith escapes from blame, which he would not do if the horse came from under his hands with increased lameness. It is so common an occurrence to refer the lameness of a horse to the fault of its shoing, that this cautious proceeding on the part of the smith need not be wondered at. It shews, however, the necessity for employing men of integrity and ability in the art of shoing, that while slow but certain mischief may be prevented on the one hand, impudent boldness, that would ascribe to every act of carelessness, followed by lameness, the merits of a measure that would ultimately improve the foot, may be avoided on the other hand.

Page 15.

(22) This " restrictive" is in reality an efficient adhesive stopping, which supports the sole, and thereby relieves the crust and laminæ in a corresponding degree. That this mode of treatment may sometimes produce an increased degree of lameness is undoubtedly true, but then it is only temporary.

Throughout his directions for the management of thin weak feet, our author shews himself to be a perfect master of the subject he is treating on; he places it fairly before his reader, and does not beguile his fancy by such bold unfounded pretensions as most of our modern book-makers have put forth in favour of their " Principles," " New Systems," and " Improved Methods."

Page 16.

(23) The "vaulted shoe" is the same as that called the "prison shoe" by Bracy Clarke, and reprobated by him: its mischievous effects seem to have been known quite as well to the old author as to the modern one.

Page 16.

(24) Many important principles are here judiciously brought into operation: the abstaining from paring feet already weak, the moderate application of moisture, support to the sole, and emollient applications to the hoof.

Page 16.

(25) The remarks made in notes 22 and 23, are also applicable in this place.

Page 17.

(26) The drying up of the foot by applying moisture to it, may appear paradoxical; but it certainly is true that long continued moisture has this effect. Until the aqueous particles absorbed by the hoof are evaporated, it certainly is softer; but then each succeeding state of dryness is attended with an increased degree of brittle harshness. Cow-dung merely applies moisture, and is among the worst stoppings that can be used.

"Bumble footed" is a common appellation in England, for the kind of foot here called "*comble,*" and probably is a corruption of the French term.

Page 18.

(27) It is supposed by many persons, that the doctrine of carefully fitting the shoe to the foot is a modern improvement; but it is evident, from a perusal of Solleysell, and also from the writings of many other old authors, that the best modern practice of shoing was also the practice of the best farriers of former times. So in regard to the manner of nailing the shoe to the foot, we have here a mode described which was brought forward, a few years back, as a newly discovered improvement: as regarded the practice of nailing then most common, it undoubtedly was an improvement; still it was merely a recurrence to much older practice. The custom of piercing the nail-holes very near the edge of the shoe had grown into general use at the time alluded to, and was by many persons supposed to be essential to good shoing: to accomplish this fine nailing, skilful expertness is requisite, and often much mischief is done; for the nail has to be driven first in a direction towards the sensible parts of the foot, but by a bevil at the

point it receives a direction outwards, so that it becomes curved instead of remaining straight, and its course is dependent upon conjecture, which, however, by practice, becomes very accurate.

The hoof diminishes in hardness from the outer surface towards the inner; the nail is driven into its substance, acting as a wedge: if the nails are driven too near to the outer surface, a portion of the hoof, by being shattered, easily breaks off; and if too near the inner and softer part, it bulges in the direction of the least resistence, presses on the sensible part of the foot, and produces a degree of inconvenience which, though not amounting to lameness, is often sufficient to produce constrained and unpleasant action. By piercing the holes rather far from the edge of the shoe, the nail may be driven in a direct line outwards, crossing obliquely the direction of the fibres of the hoof, instead of splitting them asunder, and thus the chance of mischief occurring is diminished.

In Spain, where most things appear to be in their primitive state of rudeness or simplicity, shoes are nailed to horses' feet by ordinary people, with safety and security. The nail-hole is large; the nail enters very near to, or quite at, the inner side of the crust; it is driven rather obliquely upwards, and comes through on the outside but a very little way up the hoof; so that no risk or accident is incurred by the nail being driven too close to the sensible parts of the foot. Shoes nailed in this way remain fixed very securely.

Page 18.

(28) The vaulted shoes support the outer wall or crust only, and, extending over the sole, prevent that part of the foot from receiving any direct support from the ground; therefore the entire weight of the animal is sustained by the crust or wall surrounding the foot. It has been already stated, that very often this crust in large feet is thin and weak in proportion as the size of the foot is large, so that it gives way under the unnatural strain it is exposed to, and becomes hollow on the outer surface in front of the foot; the coffin-bone descends at the toe in the same degree, making the sole convex on the under or ground surface.

Horses employed on the natural surface of the soil, soon get the cavity within the shoe filled up with earth, and, while it remains so, the sole is supported and the hoof relieved to an equal extent: in this way the natural functions are assisted, and the foot improved in shape and usefulness.

Page 19.

(29) "Hoof-bound," means the same state as that indicated by Coleman's term "contracted feet," and is a very appropriate term.

Page 19.

(30) That Solleysell knew quite as much regarding this cause of lameness as Professor Coleman, must be evident to every one who carefully reads the work of the former, and has attended to the dicta of the latter. Solleysell lowers the heel to preserve or restore the natural position of the limb. Coleman proposes to do so for the purpose of exposing the frog to pressure; this, namely, frog pressure, being his universal specific—his infallible remedy for "corns, canker, flat soles, quitter, contracted frogs, cutting, sand cracks, contracted feet, and thrushes,"—most certainly a long list of maladies to be cured by the particular form of a horse-shoe.

The thin-heeled shoe is avowedly employed by Coleman, for the purpose of exposing the frog to pressure—for the purpose of bringing the frog nearer the ground, when standing on a level surface; but to prevent the relative position of the several parts of the foot and limb being changed or infringed upon, it is especially directed to keep hoof and shoe jointly of the same depth with the thin-heeled shoe as with the thick-heeled shoe—that the thickness of the heel of the shoe is only to be diminished in the degree that the heels of the hoof grow deeper; the effect of neglecting this caution, and really lowering the heels, is shewn to be the production of mischief to the flexor tendons of the limb.

Now, although the hoof and frog grow down separate and distinct from each other, yet they both spring from one common origin; and, so long as the heels are kept of a given depth, no matter whether by horn alone, or by horn and iron jointly, in any proportions that may be put together, so long will the frog remain at the same given distance from the ground, or from a line drawn from the ground surface of one heel to that of the other. How then the thin iron, counteracted by the thick hoof, is to bring the frog one hair's breadth lower, so long as the Principles, as they are called, of Professor Coleman are adhered to, it is beyond even the ingenuity of the learned Professor himself to demonstrate.

It seems strange that such a glaring fallacy should for so long a time have escaped detection.

Since writing the foregoing remarks, founded on an attentive perusal of the Professor's book on the principles and practice of shoing, and an intimate acquaintance with the manner in which these have been acted up to, I have turned to his second volume, on the foot of the horse, wherein his erroneous dicta regarding the effect produced by thin-heeled shoes are repeated. Thirty-five years have elapsed since the only edition of this work was published: it professes to answer objections which had been then urged, by Moorcroft, against what is called the College practice of shoing, and goes into elaborate detail regarding some particular parts of that practice; it professes to be a standard work for the instruction of shoers of horses, yet it has never been reprinted, and seems to be almost forgotten: though clothed in the garb of College authority, its doctrines have long been obsolete.

Now considering that Coleman's system of shoing was, in practice, soon given up, even by its warmest advocates, it is another circumstance calculated to excite surprise that nothing has been published to rescue it from this fate, by correcting the errors fallen into, for so long a period; more especially as Coleman, in the book above adverted to, expresses himself in these words: "It is the interest and duty of every writer frequently to examine the opinions he has published, and where the subject is of a practical nature, and admits of demonstration, the public have a right to expect that the author will embrace every opportunity to acknowledge either that the opinions formerly cherished are, from better experience, in part or wholly given up, or that longer and more extensive practice has confirmed their utility. The great object of every inquirer into nature or art should be Truth; and he who blindly adheres to any specious opinion, merely from its being the offspring of his own brain, or from prejudice, or a mistaken policy, has not the courage to acknowledge and correct his errors, must sooner or later have the mortification to see them exposed by others."

"The hoof during life, I have repeatedly observed," says the Professor, "is always growing; and therefore if a portion of horn be removed, equal to that which has been deposited at the toe of the hoof, and if no portion whatever be removed from the heels, then, without shoes, the relative proportions being altered, the muscles that support the heels would have less weight to sustain than before. This practice might be increased to an improper degree, and the weight of the animal supported so much by the coffin, and so little by the navicular bone, as to occasion inconvenience and even lameness." So far in illustration of principles, and then follows a confirmation of his erroneous diction of thin-heeled shoes bringing the frog nearer to the ground. "*The application, therefore, of the thin-heeled shoe,* WHEN PROPERLY APPLIED, *can give neither* MORE *or* LESS *weight to the flexor muscles.*"

If any apology is necessary for having treated the Professor of the Royal Veterinary College so freely, I cannot do better than to offer it in his own words, when speaking of Moorcroft: "I am also ready to acknowledge the high sense I entertain of his (Moorcroft's) talents and professional knowledge; but, the more eminent Mr. Moorcroft's [for *Moorcroft's* read *Coleman's*] professional character, the more I feel it my duty to scrutinize those opinions most likely to make an impression on the public mind; and many of those opinions, although very plausible and ingenious, are nevertheless, in my humble judgment, founded in error."

Page 19.

(31) The author elsewhere describes *bleymes* as "an inflammation occasioned by a corrupt or bruised blood within the sole at the quarters;" a state now most commonly described under the general name of *corns*.

Page 19.

(32) This is a full and accurate description of a most mischievous practice. See Note 9, on the use and abuse of the Butteris.

Page 20.

(33) The consequences of scooping out such important parts of the foot, under colour of the specious term "opening the heels," are very correctly stated.

Page 20.

(34) The reasoning upon this subject deserves attention, and is much more intelligible and pithy than the lengthened description of many more modern writers.

Page 20.

(35) The doctrine of preserving the frog, for "frush" and frog are synonymous, seems to have been entertained even prior to the time when Solleysell wrote: he does not lead his readers astray by the dogmatical injunction to "never pare the frog;" the object he has in view is the preservation of it in a healthy sound state: for this purpose he directs the loose ragged portion to be cut away, and without doing so it is a vain hope to expect the frog to be sound, since loose ragged parts never again unite; it is only by new growth that the frog can become full and sound.

Page 21.

(36) Solleysell is by no means backward in giving all due credit to his predecessors, in the art he writes about with so much ability. In regard to this shoe of Monsieur de la Broue's, or whoever else may have been its inventor, he seems merely to have furnished it with a name, and that is a very appropriate one.

Page 22.

(37) The description of the Panton Shoe is so clearly given, that it is not possible to mistake its form, nor the principle of its application, and it is truly and efficiently an expanding shoe—the most perfectly so of any kind of shoe I have yet met with or seen described; the demi-panton shoe is a close approximation to it, and has the advantage of being forged and fitted to the foot still more easily, while at the same time it presents a concave under surface, calculated to embrace the ground more firmly, and of course thereby render the horse less liable to slip about.

Page 23.

(38) It is by no means an unusual occurrence for the inexperienced to be deluded into a belief that their horses' feet have been improved by expanding them, while in reality a change has been effected merely in the form and appearance of the shoe. The foot is triumphantly held up, when the under surface of it and the shoe only can be seen, and attention is drawn to the width of heel; whereas it is the shoe merely which is made wider by extending it laterally beyond the heels of the hoof, which continues to retain all its original deformity.

Page 23.

(39) Some years back Coleman took out a patent for what he called an expanding shoe, which was nothing more than a common shoe, having the inner corner of each heel of the fore shoes made to form a flanch or clip, similar to that often made at the toe of the shoe; which flanches were intended to press laterally against each bar at its posterior part. This shoe, he stated, would expand the foot; but it required so much nicety of adjustment, that its expanding properties, such as it had, were either not brought into action at all, or were carried to the excess of tearing, as it were, the foot open, and thereby doing a great deal of harm; besides, its mode of operating, as he describes it, was completely at variance with the doctrine he had previously promulgated respecting his favourite *disease*—contraction, and the manner in which it took place. For the end proposed, this shoe was useless; but then its internal clips give the advantage of assisting to fix the shoe more firmly, a matter of consequence with brittle or broken feet. This property Coleman seems to have known nothing about, though it is the only advantageous one the shoe has, and in that respect has some slight resemblance to the panton shoe.

Page 23.

(40) The cautions given respecting the using of horses shod with these expanding shoes well deserve attention, and shew that the author was fully aware that the foot cannot bear this violent stretching open all at once with impunity.

Page 24.

(41) This "hoof-binding" is attendant on a tender state of the posterior parts of the foot, to relieve which the horse treads lightly on the heel; this diminishes the wear of the hoof at that part; the heels get strong, high, and are disposed to contract; the pastern-bones are brought nearer to a direct perpendicular line with the other bones of the limb; more weight is thrown on to the coffin-bone; the obliquity and consequently spring of the pastern-joint is diminished; and the horse goes

stumpy, or stilty, on his toes. These changes in the situations of the bones of the limb palliate the effects of the primary cause; they do not bring about soundness, but they retard the progress towards a state of lameness that renders a horse totally useless.

Page 25.

(42) I cannot say any thing in defence of such physiology and surgical treatment as our author here gives.

Page 25.

(43) This description of the demi-panton shoe is so clear that it cannot be mistaken, even without the aid of the cut that represents it. Its power to force out the heels, as compared with the panton shoe, must depend upon the degree of slope given to the webb of the shoe. Goodwin, about twenty years ago, adopted a form of shoe closely approximating to the demi-panton shoe of Solleysell; but, in the book he soon afterwards published, he gives no reason to suppose that he was aware of any shoe so very similar having been previously employed: he urges objections to Solleysell's panton shoe, but takes no notice of its modification in the demi-panton form. It may be reasonably inferred from his writing, that at the time his book on shoing was first published he had not read Solleysell's work; but being himself an observant and experienced practitioner, he arrived at many of his predecessor's conclusions, and hit upon much of his practice.

Page 26.

(44) A shoe perfectly plane on the foot surface applied to a foot equally plane, is retained in its place on the foot by the nails only, and it is prevented from slipping sideways merely by their strength. A convexity of any part of the shoe according with any part of the concavity of the foot, diminishes or takes off the lateral force upon the nails; with this shoe, therefore, they may be much more thin in the shank than under other circumstances. It is always desirable to have nails as thin in the shank as is consistent with requisite strength; more especially for hoofs that are thin, broken, or weak in texture.

Page 27.

(45) All this treatment principally resolves itself into means for giving pressure or support to the sole, and thereby relieving the crust and laminæ from weight in a proportionate degree; giving ease to the one, and promoting the growth of the other.

The further treatment that he refers to, consists in the application of caustics to the sensible parts exposed by the crack, and of the actual cautery, or firing, to the coronet over the crack, with the constant use of emollient ointments.

For a cleft down the centre of the foot, he recommends the bold practice of perforating the crust with an awl, and tying together the divided hoof with wire; and, if this is thought too hazardous, a thin piece of iron, with the ends turned at right angles, and made sharp at the points to be inserted into perforations in the hoof; in this way forming a sort of clasp similar to that which is used in joining together broken china.

There are many men who pursue a sort of empirical practice in the treatment of these *seymes*, or cracks in the hoof, occasioning false quarters, and enjoy the reputation of great cleverness: with some of them this seems to rest mainly on their expertness in binding the foot about with small cord, or in employing other similar means whereby the edges of the split hoof are bound together. This artificial banding keeps the parts firm, similar to the natural sound hoof, and protects the new growth of horn while it is yet tender.

Page 27.

(46) An inequality in the depth of the hoof, at each of the heels, is by no means an unusual occurrence, and so long as the horse goes sound, which is very often the case, it is much better to let them remain so, correcting the irregularity only in a slight degree by paring the foot accordingly. As to taking out the sole, and cleaving the frog, it is certainly too violent a mode of treatment to have recourse to under ordinary circumstances; indeed, I cannot understand how it is to be of service at any time.

Page 27.

(47) These lunettes, or tips as they of late years have been called, rank high among Coleman's discoveries! although, more than a hundred years before he wrote, their use was described to be an old custom. From a want of due discrimination in employing them, they frequently, under College auspices, did much harm. There are many feet certainly with such thick, tough, free-growing strong hoofs, as almost to resist the effect of wear; to such the lunette or tip may be applied; but under any circumstances it possesses no real advantage over the continuous shoe fitted to the full shape of the foot with the hoof properly pared.

Page 27.

(48) The working of horses without shoes has occasionally had a theoretical advocate, striving to aim at something out of the common way: the best proof against such a custom being advantageous is, that it has always been speedily given up, and shoing again had recourse to, no matter how strong, tough, and slow-wearing the hoof may be.

Page 28.

(49) Any horses having strong feet, that are under-fed, and consequently feeble, may certainly jog on without shoes over the natural soil; but to expect horses in condition to work up to that condition on artificial roads that are constantly and rapidly grinding away the hoof, is quite out of the question.

Page 29.

(50) By the description Solleysell gives of the place for the performance of this operation, it is not merely sinew that is cut through, but also a good deal of muscular fibre, the tendon at that part being blended with muscle, and he here evinces more knowledge of anatomy than might be expected for the period at which he wrote. A similar operation was brought into notice a few years ago by Dick, of Edinburgh, who divided the flexor-tendons below the knee. This latter operation is probably more simple, and requires less watching and treatment than the former; but then it takes more time for the horse to come round, though perhaps he does so with less risk. If the wound made, in performing the operation according to Solleysell's directions, should happen to take an unhealthy character, it becomes more difficult to manage, from the tendency of pus to burrow down among the tendons, which are very loosely united by delicate cellular tissue, and enveloped in strong facia, through which no favourable exit for the matter can be relied on.

Page 30.

(51) The swelling welt, or border round the edge of the shoe, is still common in Spain and Portugal, and is given by hammering the edge of the shoe while cold, the iron being good and the shoe thin. It is, as may be supposed, a tedious operation.

Page 31.

(52) The publication of this book has been delayed several years, waiting for opportunity and leisure to investigate and attempt to illustrate this subject somewhat fully: time, however, after a certain period of life, does not add to energies; and increasing occupation diminishes the probability of leisure; I shall, therefore, let the matter stand as left by our author.

Page 31.

(53) The duke's ointment is a compound of linseed oil, brimstone, lard, and wax, carefully mixed and digested; applied cold as a resolvent.

Page 32.

(54) The statement made in the fifty-second note is alike applicable in this place.

Page 34.

(55) The correctness of these remarks must be evident to every observer, and it is to be regretted that so little attention is paid to the mode of paving many of our modern stables. Nothing equals the Dutch clinker of olden times, either in fitness for the purpose, or in cheapness, when its durability is looked to. Large mis-shapen stones are in common use; these are generally carelessly pitched, so that wide interstices present facility, indeed temptation, to a horse to get his toes into them, and the habit once acquired is but rarely given up; we need not, therefore, be surprised at seeing so many horses go "perched" on their toes, but rather that such deformity is not more common; with stalls rising very considerably at the fore part, a horse is almost compelled to resort to this mode of relieving a very uneasy posture. In the natural way of standing, the legs act similar to perpendicular props in supporting the weight of the body; now, on an inclined plane, sloping backwards, it is impossible for them to do so without putting the posterior parts of the limb on the stretch; to avoid which the horse seeks ease by lowering his toes in the manner already adverted to. If this did not go farther than to give the foot a level bearing, it would not much matter; but it generally goes to the extent of so much perverting the functions of the flexor-tendons and posterior ligaments, that they become rigid, lose their tone, and remain permanently shortened.

Page 34.

(56) Rest, blisters, firing, with still further adequate rest, will often relieve, or even restore these spoilt legs, if not too far gone; but as to weak shoulders, by which may be understood a general feebleness of the fore limbs, why the sooner they find their way to slow draft work the better.

Having named Firing as a remedial means, I shall take this opportunity of stating the very favourable opinion I entertain of the advantages resulting from its use, when judiciously applied as to time and degree. It certainly is a powerfully efficient remedy, and like all others of the same class, liable to produce a corresponding degree of injury when misapplied. The mere operation requires but little skill; a steady firm hand, with sufficient personal courage to avoid shrinking from the risk of a kick or a plunge, being the chief requisites. Not so, however, with regard to the selection of fit cases, and the proper time for its application. Nature, and other means, must be allowed time to do their part before recourse is had to it, and ample time must be allowed for the parts submitted to its operation to recover their tone after it has been resorted to. It is the want of a proper discrimination, (which can only be acquired by observation and experience,) carelessness in guarding against injury while parts remain in a sensible tender state, and the absence of sufficient patience in waiting for recovery, which brings it into disrepute; but these have nothing to do with its real merits. I know it is declaimed against by the Veterinary College authorities, as a barbarous practice which ought to be scouted; still we find a large proportion of our most valuable, high-priced horses, who carry the marks of the iron about with them: some certainly a good deal scarred and disfigured, but nevertheless sound. Now I believe a great part of this College prejudice hinges upon a want of tact in the Magnates of that Institution to operate skilfully; and modesty induces them to abstain from sending forth their hand-writing in hieroglyphic scrawl which none can decipher. I am no advocate for the dreadful scarifications we sometimes see perpetrated; but still I believe the operation of Firing, when properly directed and performed, to be, if not in reality the most important, at any rate among the most important and valuable remedial means which the Veterinary Pr actitioner can resortto.

Page 34.

(57) In other words, that the shoe shall accurately fit the foot and not project beyond any part of it; by which the chance of being torn off is diminished, as there is no projection for the hind-foot to hitch on to.

But I believe it much more frequently happens, that the toe of the hind-foot, or shoe, strikes the ground surface of the fore-foot shoe, while the foot is being raised preparatory to making a step. This kind of over-reach, or "clacking," is quite different to the sensible part of the heel being struck and cut by the toe of the hind-foot shoe.

Page 34.

(58) I must confess that I do not understand how this greater degree of security is brought about.

Page 34.

(59) These remarks, among many others, point out very clearly the intimate connexion between the art of Farriery and Horsemanship; for, in former times, riding was practised as an art, and pursued as an amusement. The horse was not merely used for transferring the rider from place to place at a rapid rate, but much pains was taken in a SCHOOL to teach him artificial paces and airs calculated to give ease to the rider, and a graceful appearance when mounted. The business of a riding-master was then an important one, and many of the works of those days, as well as Solleysell's, are still extant; all of which, besides the instructions they contain on the art of riding, give direc-

tions, more or less valuable, for the treatment of diseases, and the manual operations of shoing. This union of riding-master and doctor is a natural one; for who so capable of discovering the first deviations from health in horses as the person using them? and who so capable of watching the progress of disease, or a return to health, as those constantly with them, and having a deep interest in their welfare?

Early in the last century, however, a change took place, and the cultivation of riding, as an accomplishment, declined in estimation. Being no longer fashionable, the riding-master ceased to be paid for the exercise of talent and skill, and his art fell into disuse.

But, although the riding-master was no longer necessary, it was not so in regard to the doctor; and this latter calling was taken up by, and has since been continued in the hands of, the farrier. Now, considering how ungovernable a subject the horse is in the hands of inexperienced persons, and how necessary a fearless expertness in general management is requisite in the administering of medicine, in the application of dressings, and in the performance of operations, the business of *doctor* almost of necessity passed into the hands of the shoing-smith, or, as he is often called, the farrier: a union of callings, however, the most unnatural that can well be imagined, and which has been the foundation of a great deal of mischief.

So far as the mere paring of a diseased foot is concerned, the shoing-smith is a convenient and useful auxiliary; but, beyond this, there is nothing whatever in his calling that can lead to a knowledge of diseases, or their treatment, or to the performance of operations of any description. Still, in the language of Captain Burdon, "A farrier is as useful a trade as any other in his Majesty's dominions: we commonly call him doctor, because he professes physic and surgery among horses; and some are good sensible men:" but, too often, his skill consists in *profession* alone; and how can it be otherwise, since shoing only is his province, and in general he has no means of acquiring any horse-knowledge beyond it. Indeed, of late years, Mr. Coleman has undertaken to make Veterinary Surgeons in a few months; and many farriers, and others with still less preliminary knowledge than farriers, have been certified to the public, by Coleman and Co. as being competent to combat with disease,—as being competent to practise the Veterinary Art. However, experience has shown, that something more than the acquirement of a few hard words, and a smattering of that gentleman's theoretical doctrines, are necessary to deserve and obtain confidence.

I gave these opinions many years ago, in the "HIPPIATRIST;" and see no reason to change them.

Page 35.

(60) This foundering is a disease well known under the name of Fever in the Feet, and arises from the sensible laminæ taking on inflammatory action, whereby coagulable lymph, or fibrine as it is now commonly termed, becomes effused, and separates them from their corresponding horny attachments, and is very generally a sequel to

other inflammatory attacks, especially of the kidneys and lungs. It is a very difficult disease to control; and its existence is marked by a horse invariably getting his fore-feet far forward, stepping on the posterior part of the foot, and thereby easing the fore-part. During the acute stages, the hind-legs are also brought very far forward, to diminish the weight which otherwise would be supported by the fore-feet; and, from the peculiar gait caused by this effort, it is often supposed, by the inexperienced, that the lameness is in the hind limbs, or that the back is injured. As the disease advances, the effused lymph becomes organized; thickening of the hoof at the toe takes place; and although soreness, and, consequently, lameness may be got rid of, still deformity of foot, and the unnatural manner of putting it to the ground, always remains in a greater or less degree.

Page 35.

(61) The general description of the state of the foot is very correct, except inasmuch as relates to any part of the horny box of the foot being hollow or empty. That the hoof changes its shape, and the " bone of the little foot," or coffin-bone, changes its relative situation in regard to the hoof, is perfectly true; but by the effusion of coagulable lymph, or by an increased secretion of horn, the formation of any cavity is prevented, though the original symmetry and relatively correct apposition of the parts, be destroyed.

However, a hollowness of the hoof often occurs by a separation between the compact structure of the outer part, and the more soft structure from which the laminæ proceeds, and in this sense the foot may be called hollow. Still the whole of the sensible parts have a horny covering in contact with them; but as it is weak and imperfect in its growth, the foot, under these circumstances, is generally deformed in its shape.

Page 36.

(62) This reasoning of our author's is very near in accordance with the remarks in the two last notes, and almost renders them unnecessary. In the same degree that the coffin-bone is separated from its natural attachment to the hoof, so does it descend and occasion the sole to bulge and become thin at the toe: but its resemblance to a crescent is rather remote. The appearance often misleads the unwary, and much mischief ensues from attempting to give a desirable form to the ground surface of the foot, by paring away the substance of the protruding part.

Page 36.

(63) We have here another instance of our author's good sense;

for if the cost of cure is to amount to more than the value of the horse after recovery, how much better it is to give up the animal at once. The art of surgery applied to the human being is successful, if pain and inconvenience be alleviated, and a limb preserved, although with diminished activity and usefulness. But, with the horse, it is far otherwise; value given and returned, is a matter of pounds, shillings, and pence, and it too often happens that the luckiest thing for an owner is, that his horse should die at the outset of a complaint. These remarks are not intended to damp zeal, or check exertion in adopting curative means, and patiently waiting the result; but to guard against recklessness, in pursuing objects which may be physically unattainable.

Page 36.

(64) It is a common error to pare this bulging at the toe of the sole too much, with a view of improving the appearance of the foot; but it cannot be left too strong. There is nothing particularly efficacious in oil of bays; the main principle of his very judicious treatment is to give support to the sole from below, and by the pressure which is consequent upon doing so, to give the coffin-bone a tendency to resume its natural position within the hoof. For thin weak feet, having any tendency to give way under the pressure of the coffin-bone from above, the constant use, in the stable, of the Elastic Horse Pads, or any other means by which support may be given to the sole, is attended with very beneficial effects in arresting the progress of this malady, and, if timely employed, may indeed entirely prevent its occurrence.

Page 36.

(65) I quite agree with Solleysell, that it is much better to abstain from taking out the sole. As to producing exfoliation of the bone by burning it, I consider such treatment too rash and destructive to warrant recourse being had to it under any circumstances.

Page 37.

(66) See note 31.

Page 37.

(67) The author probably means that, from a great square calkin penetrating the ground with difficulty, and imperfectly, it occasions an undue portion of weight to be supported by the posterior part of the foot, which is thereby elevated in an unnatural degree: while the pointed calkin which he recommends penetrates the

ground, whereby the foot retains its natural position. See latter part of note 14.

Page 38.

(68) A strong prejudice is entertained by many persons against calkin, or "roughing" as it is commonly called, even in frosty weather; by them it is supposed that frequently taking off the shoe for this purpose, and refixing it, shatters the hoof; but such is not the effect when properly done. The clinches should be turned back, the nails carefully drawn, and only the extremities of the heels of the shoe made hot, so as to admit of a small pointed calkin being formed. With these cautious proceedings the fitting of the shoe remains unaltered, nails may be driven into the former nail-holes, and the shoe refixed on its former seat, leaving the hoof uninjured. In this way shoes may be removed repeatedly without doing harm. Each time this process is repeated the shoe becomes somewhat shorter, but it may be done many times before the shoe is made objectionably short. When roughing becomes necessary, it is always better to use the shoes then in wear, than new ones; for the horny protection of the sensible foot is then left undiminished by preparing it for the reception of a new shoe.

Page 38.

(69) Pliability of the limbs, indeed of the whole animal, is requisite in horses for the menage: one object is to bring all the springs—all the elasticity of the animal machine—into full play. This lowering of the heels being the converse of throwing the horse on to his toes, thereby making him go stilty, or stumpy, has a tendency towards assisting in attaining the end sought for. As to the foot becoming dry, it is probably intended to say that it will become hot and tender, which is a consequence very likely to ensue, and better directions than those of our author to counteract the evil cannot be given.

Page 39.

(70) These are very good directions for guarding against the paring away of too much sole from a naturally weak foot. The paragraph which follows, is well calculated to fix attention on this matter, and prevent falling into the opposite extreme.

Page 39.

(71) The number of mules in this country is so small, that the remarks upon the nature of their feet is not of much importance; but the facts are as here stated. Exposure to air allows moisture naturally secreted from the foot to evaporate, and no doubt makes

it harder than when not so exposed. But then, on the other hand, he represents air as being necessary to prevent their becoming too dry and hard. Perhaps, after all, the author's meaning is, that the less interference with the natural functions of the foot, the better.

Page 40.

(72) There is a great deal of candour in these remarks, which still further shew how well Solleysell was informed on the subject he writes about. The meed of praise given to adroit English smiths, towards the close of the century before the last, is most likely not more than was due to them. See further, note 2.

Page 40.

(73) Throughout Portugal, and also great part of Spain, shoes are still hammered and fitted to the feet while cold, and are equally as light as those described to be used in Turkey. In the former country, more especially, it is a thin plate of iron with a circular hole near the centre, according very closely with the "Planch" shoe, as described in page 39.

Page 42.

(74) These precise and clear directions, for shoing cutting horses, have not been improved on by modern science; indeed we have omitted a very important part, namely, the simple and effectual mode of securing the clinch of the nail, as directed by Solleysell. The groove made by the rasp, if sufficiently deep to receive the clinch, disfigures the hoof, indeed weakens it needlessly, at a part where it is desirable to preserve strength ; and, when not sufficiently deep, one of two things occur—either the clinch is nearly filed off in giving a finish to the foot, or it is left an unsightly projection, liable to injure the opposite limb.

Page 42.

(75) The effect of the calkin, when the horse is walking on a nearly unyielding surface, is certainly as here described. The reason given for making it on the outside heel, when but one is used, is its being there less liable to produce bruises of the coronet from treads, by crossing his legs in the stable, in passaging, or in any other way. The habit of a horse in this respect, however, is easily found out, and these lateral treads are not so common as to require an invariable practice to guard against them. In this, as in all the other minute details of shoing, there is wide scope for the exercise of observation and sound judgment.

Page 43.

(76) The practice of nailing on the shoe by one side only, was a few years since put forth as a discovery pregnant with great advantages; and, like many other supposed discoveries, it has been employed indiscriminately, consequently, on many occasions, injudiciously. The fancy took with many persons, and though the nails often came far round the toe, even to the side of the foot, still it was called "one-sided nailing." A controversy was carried on for some time between claimants to the merit of having introduced this practice, each asserting that he was the first who did so. The line that precedes the reference to this note puts the question at rest; it shows that whatever merit is due it belongs to neither, but was in reality an old practice become obsolete, and its being so was most probably unknown to any of its modern advocates.

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(77) There is no kind of boot yet invented, or probably that ever can be invented, but must be liable to do injury in some degree to the pastern-joint, or its contiguity: however elastic may be the material, pressure by a band in some way must be given to keep it on, dust or sloppy grit will insinuate, the hair get rubbed off, and, sometimes, the skin from abrasion become sore. The elasticity of India rubber bands, perhaps diminishes, but certainly does not remove objections to the adoption of this practice. Still, with led horses on a journey, and, indeed, when rode or driven, it often becomes desirable to have recourse to a cutting-boot, as the least of two evils.

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(78) Ingenious contrivances for supplying the place of a lost shoe continue to be brought forward into notice; but they all appear to have some countervailing disadvantage or other, that prevents any one kind from obtaining decided superiority in general favour. Some of them answer the purpose very well, as fitted and applied to one particular foot; but then comes the difficulty, often insurmountable, of applying them to any other. If a rider chooses to encumber himself by carrying any contrivance of this kind, perhaps a leather bag, like the country gentleman's, to be fastened round the pastern by a cord or strap, is, after all, the best, as it may be rolled up and carried in the pocket; and, costing but little money, may be thrown away when the purpose is answered. But it is much better to render contrivances of this kind needless by giving due attention in proper time to the state of the feet; looking to the nails, seeing that they have good heads,

are not broken, have sufficient hold of the hoof, and have firm strong clinches. If the shoe is properly adapted and fitted to the foot, and these precautions are faithfully taken, it must be an accident of unusual occurrence to occasion the loss of a shoe. If, however, an accident of this kind does occur, the best remedy, is recourse to the nearest farrier's shop; and, in this country, these are so numerous, as most likely to furnish one not very far distant. A little delay must be borne, as the smallest amount of evil, and, if this is felt as an annoyance, it will lead to more attention in guarding against similar disasters in future.

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(79) I shall conclude these Notes with the substance of some Papers written by me, which appeared in the Sporting Magazine for 1820, *on the Treatment of Horses' Feet in the Stable.*

The horse's foot, and the best methods of shoing, though always important considerations, have become much more so from the improved state of the roads of this country, which allows indulgence in the inclination felt by most Englishmen, whether following the avocations of business, or in the pursuit of pleasure, to travel with rapidity.

Nailing a piece of iron to a living substance, must, at all times, do violence to the functions of nature; for, although that substance, namely, the hoof, is insensible, yet it is elastic, and connected with parts highly sensible, which are changing their relative situation in regard to each other at every step the horse makes. In bad roads, where the feet sink into the soil, and the motion is slow, the effect of this harsh treatment will scarcely be perceptible; while on the hard plane surface of good roads, where the shoe scarcely makes an impression, with its general concomitant, the battering of the feet by fast travelling, it is experienced in the greatest degree.

These are mere truisms, though perhaps not always remembered : but as shoes of some sort are indispensably necessary, we see them assume a variety of forms, some of them ridiculous enough ; still the object in each case is to protect the foot from wear, and this ought to be done with as little injury to its organization as possible.

Osmer, an author with a great fund of good sense, has said, "no particular method of shoing, whatsoever, can take place, and this will happen from the different nature, form, and texture of horses' feet." Agreeing with this opinion, and therefore believing that a rigid adherence to uniformity must often produce mischief, I shall not enlarge on the subjects of "Principles," "Systems," and "Methods;" many of which have had their particular advocates, though none of them have maintained especial reputation. Those who most assiduously attend to the "nature, form, and texture of a horse's feet," to his action, and other attendant circumstances, will invariably be the best shoers; for even the only undisputed principle, namely, that the shoe must be nailed to the hoof, admits of modifications as to the particular parts into which the nails are to be driven.

There is, indeed, a point in practice, namely, that of leaving a space between the shoe and the sole, which has almost grown into a principle, and we every day hear, that " the sole will not bear to be pressed upon." This, as far as it is meant that the sole and shoe must not be in contact, is undoubtedly true; but then it is not the whole truth.

It is a law of nature, that no animal, or any part of an animal, can be preserved in health, where the natural functions are perverted; and, adverting to the irregular and yielding surface of the earth in a natural state, and to the large proportion of the ground-surface of the foot, occupied by the sole, it is evident that the latter must be exposed to, and receive much pressure; therefore, any treatment which deprives it of pressure, must, according to true physiological principles, induce disease.

The ear is accustomed to the term "pressure," though *support* is more correct; the sole contributes towards the support of the superincumbent parts, and the earth supports the sole, partly by immediate contact, and partly by supporting the hoof to which the sole is attached.

I do not mean to state that the sole sustains the whole weight of the limb, or even an equal weight with the hoof; still it sustains weight to a given extent, and to deprive it of the support it naturally receives from the earth, deranges greatly the mechanism of the whole foot.

That the sensible laminæ elongate, and the sole descends every time the foot sustains the weight of the animal, I believe to be true; if, therefore, the shoe and the sole are allowed to be in contact, the sole cannot descend, but is in reality exposed to pressure from the whole superincumbent weight: the horny sole below, being in contact with the shoe, becomes a fixed point, and the sensible sole is then liable to be crushed, or at any rate to be bruised and injured by the descending bone from above.

How then are these evils to be prevented? how is the sole to receive a natural degree of support—a degree of support that will preserve its functions, and also those of other parts of the foot from being violated: that will not expose to bruises or injury the sensible parts that it covers, by subjecting them to a greater degree of pressure than nature intended them to receive?

Experience has shewn a firm unyielding support to the sole to be the greater evil; and no support at all being the lesser evil, it has become an adage in shoing, that "the sole cannot bear pressure:" this is true so far as pressure from a shoe is concerned, and custom sanctions its being left without any support to its under surface;

while that given by the outer edge being attached to the hoof, is materially weakened by the ordinary paring of the foot, previous to applying a shoe.

I believe it next to impossible to invent a shoe, or any mode of applying a shoe, that will not produce either one or the other of these ill consequences; it is therefore by stable management alone that the evil can be corrected; yet the system which many claim credit for observing, namely, that of making the foot clean by washing, and then leaving it so, without stopping of any kind, increases it.

It is a common observation, that the feet of farm horses are more free from disease than the feet of horses more carefully treated; this is accounted for in various ways: but I am inclined to believe that it arises more from the general support given to the whole ground surface of the foot, by allowing it to remain clogged with earth, by which, also, the moisture naturally exuding from the foot is retained, than from any other cause, and that this state, which common stable language calls one of neglect, is in reality one of high preservation.

If a foot in this state is examined, it will be found moist, cool, and healthy, with the frog highly elastic; while a foot that has been washed and left in the state previously described, is dry, brittle, the sole full of cracks, with the frog hard and unyielding: these are the appearances of the insensible parts; the consequences resulting to the whole sensible foot contained within the horny box or hoof, may be imagined when we consider the difference between this horny box, which is elastic in all its parts, receiving support to its whole under surface, or resting only on a narrow edge, at least twenty out of every twenty-four hours; for as to the frog being supported, or receiving pressure, it does not, among saddle horses and the best kind of coach horses, take place very frequently after they have been once shod.

I may be told, that to stop the feet is a common practice; I know that they are often daubed with cow dung, wet clay, or other similar substances to make them moist, and with tar or other ointments to make them hard: but I do not know that stoppings for the purpose of *support* are used, though it is hardly possible that so obvious an approximation to nature should be totally overlooked, as not to be found forming a part of the stable management of reflecting individuals.

But although I have said that a foot clogged with earth, and in a state of commonly called neglect, is in my opinion probably one of high preservation, I do not by any means intend to advocate the cause of dirt and slovenliness: on the contrary, cleanliness and neatness in the greatest degree are perfectly compatible with the suggestions I shall offer; indeed they are inseparable.

Perhaps it may be possible to prepare some compressible and adhesive substance to fill up the cavity after the shoe is on, which shall give support to the whole foot, yet without impeding the full action of its elastic properties; but as I am not acquainted with a substance, that can, without manifest objections, be kept in the foot when on the road, I must confine my suggestions to stable treatment; content that horses shall continue to be shod as they now are, by those who study "the different nature, form, and texture of horses' feet;" and I believe the practice of picking out and clean washing the feet of horses, immediately after they enter a stable, to be indispensably necessary; but, this having been done —*the foot should be filled to a level with the shoe, with any substance that can be kneaded in by the strength of a man's fingers or thumb;* or, in other words, *a substance that will afford support to the whole under surface of the foot.*

This treatment of the foot will make it approximate to its state in nature: the greatest weight will be supported by the hoof resting on the shoe, while the sole and frog will be supported in a degree approaching to what takes place on the natural surface of the earth when the horse is unshod.

The descent of the sole is probably much more considerable when the horse is going fast, with the additional weight of a rider, than at other times; therefore, when a horse quits the stable for work or exercise, the foot ought to be picked out, and thus any ill consequences will be prevented that might arise from the stopping for support becoming hard and unyielding. This treatment certainly will not fully attain the object of *constant* support to the whole surface of the foot, similar to that which takes place in a state of nature, but it affords relief during the very long period a horse remains in the stable, when in general, by resting on the crust only, the functions of the foot are most violently perverted.

The natural foot has two large cavities between the frog and bars, but I am not aware of any particular use being assigned to these cavities, by any writer or teacher, though the use of the frog forming one side of each cavity, and the importance of the bars forming the other side, have been elaborately considered by many.

Now, these cavities on each side of the frog, are capable of performing very important functions; indeed; no less important than that of powerfully contributing to the expansion of the foot, and, to the preserving of its elastic properties unimpared.

The sides of the frog are nearly perpendicular, but the bars slope very considerably, so that the foot receives lateral or expanding pressure every time the bars rest on any convex substance; and when the soil is yielding, the hoof, at every step, embraces a portion of it, which enters the cavities already noticed, and being compressed into a smaller space, equally gives lateral or expanding pressure. When the soil, from being adhesive, remains in these cavities, it becomes hard, and in this state, whenever pressed on, it acts somewhat as wedges, in expanding the foot.

ERRATA.

Page 3, line 9 ; *dele* ; or before behind, behind before.
Page 15, line 19 ; *add* i *in* thinkng
Page 28, Chap. 7 ; *for* GO INA *read* GO IN A
Page 49, line 7 ; *add* i- *to* pl
Page 50, Note 17, line 2 ; *for* common *read* modern.
Page 54, line 21 ; *for* or accident *read* of accident
Page 55, line 5 ; *for* proposes *read* professes.
Page 56, line 29 ; *for* diction *read* dictum.
Page 61, Note 50, line 15 ; *add* s *in* facia.
Page 63, last line of Note 56 ; *for* Pr actitioner can resortto, *read* Practitioner can resort to.
Page 67, Note 69, line 2 ; for menage *read* manege.